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THIS WEEK'S NATIONAL PETROLEUM NEWS

The Recognized Authority on News, Markets and Technical Developments in the Oil Industry

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COMING MEETINGS

General Expositions

Great Lakes Exposition, Lake Front, W. 3rd to E. 22nd Sts., Cleveland, O., June 27 to Oct. 12.

Kansas Diamond Jubilee Exposition, Wichita, Oct. 7 to 17.

Texas Centennial Exposition, Dallas and Ft. Worth, June 6 to Nov. 29.

Oil Meetings

National Association of Lubricating Grease Manufacturers, Inc., Stevens Hotel, Chicago, Ill., Oct. 12 and 13.

American Institute of Mining and Metallurgical Engineers, Statler Hotel, Cleveland, Ohio, Oct. 19 to 23.

Association of Gas Appliance and Equipment Manufacturers, first annual convention and exhibit during 18th annual convention of American Gas Association, Atlantic City Auditorium, Atlantic City, N. J., Oct. 25 to 30.

Oil Trades Assn. of New York, annual banquet, Waldorf Astoria Hotel, New York, Oct. 27.

National Oil Marketers Association, annual convention, Stevens Hotel, Chicago, Ill., Oct. 27 to 29.

Indiana Independent Petroleum Association, fall convention, Hotel Severin, Indianapolis, Ind., Nov. 4 and 5.

American Association Petroleum Geologists. Pacific Section, Biltmore hotel, Los Angeles, Calif., Nov. 5 and 6.

American Institute of Mining Metallurgical, Western Meeting, Mexico City, Mexico, Nov. 7 to 16.

American Petroleum Institute, 17th annual meeting, Stevens Hotel, Chicago, Nov. 9 to 12.

National Automobile Show, Grand

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L. S. WESCOAT

L. S. WESCOAT, recently elected a director of the Pure Oil Co., has been with the Dawes interests for 14 years, before that being connected with the automotive industry. In 1925 he left the managership of one of the public utility group of these interests in Louisiana to come with Pure Oil Co. and he has been directing its marketing operations most of the period since. He was active in the administrative work of the Planning & Co-ordination Committee of the NRA code and was chairman of the Petroleum Industry Exhibit Committee during the Chicago World Fair.

NATIONAL PETROLEUM NEWS

VOLUME 28 NUMBER 41

Co-op. Bulk Plants in Minnesota Hold 8.5% of Gasoline Business

ST. PAUL, Minn., Sept. 30

By **E. L. BARRINGER**
N. P. N. Staff Writer

SINCE the first co-operative bulk plant was organized in 1921 up here in Minnesota an ever increasing number of oil companies and jobbers have encountered co-op competition on tankwagon business, both in this and other states.

More recently, retailers have experienced this form of competition through co-operatives branching into the service station field.

Minnesota's first co-operative bulk plant now has blossomed into a movement with 188 such plants in the state last year, doing a considerable portion of its gasoline business. The farm bureau oil co-op movement has spread into other midwestern agricultural states and in some the development has reached the point where service stations are being built in towns and cities that compare with the architectural monuments erected by the oil companies.

In these 15 years the record of Minnesota co-operatives as to gasoline inshipments, number of oil co-op companies and number of bulk plants operated shows that:

1. By lumping inshipments for all co-op bulk plants into a single figure and comparing with integrated oil company inshipments, co-operatives since 1929 have been in second place, except for 1933, when they were third.

2. From 1922 through 1935 co-op plants, as a group, shipped in an increasingly larger percentage of the state's gasoline, except in 1932.

3. The number of co-operative bulk plants in operation has increased each year, to a total of 188 in 1935.

4. The average gasoline inshipments per plant reached a

TABLE 1

Inshipments of Gasoline into Minnesota, by Years, from 1929 through 1935, for All Co-op. Bulk Plants Combined and for 16 Integrated Oil Companies

Company	1929 Gallons	%	1930 Gallons	%	1931 Gallons	%	1932 Gallons	%	1933 Gallons	%	1934 Gallons	%	1935 Gallons	%
Standard Oil Co. of Ind.	94,408,532	26.38	95,293,249	23.74	93,344,694	21.13	79,939,253	19.93	76,344,437	19.00	78,978,900	18.30	81,785,133	17.92
All co-op. bulk plants	17,478,319	4.88	24,414,753	6.08	28,042,489	6.34	24,109,357	6.01	24,418,502	6.07	30,621,890	7.09	38,848,217	8.51
Phillips Petroleum Co.	14,425,960	4.03	14,383,824	3.58	21,349,108	4.83	21,227,580	5.29	24,594,424	6.12	26,124,101	6.05	28,900,556	6.33
The Texas Co.	13,676,692	3.82	14,284,589	3.56	12,341,757	2.79	15,486,417	3.86	17,282,910	4.30	17,890,333	4.14	18,916,176	4.14
Socony-Vacuum Oil Co.	14,771,548	4.13	16,123,621	4.02	15,943,033	3.61	17,113,522	4.27	15,869,788	3.95	16,681,647	3.86	17,308,431	3.79
Cities Service Oil Co.	9,037,152	2.52	11,262,513	2.80	17,951,694	4.06	15,273,563	3.81	14,396,290	3.58	15,297,178	3.54	16,758,322	3.67
Pure Oil Co.	14,082,845	3.93	13,372,849	3.33	16,871,942	3.82	18,012,279	4.49	15,752,809	3.92	16,232,816	3.76	16,155,543	3.54
Skelly Oil Co.	2,325,219	0.65	2,549,398	0.63	4,545,707	1.03	5,167,571	1.29	8,796,057	2.19	11,682,799	2.71	13,046,772	2.86
Shell Petroleum Corp.	12,672,056	3.54	9,734,559	2.42	10,693,064	2.42	7,561,619	1.88	9,788,774	2.44	9,652,448	2.24	10,512,852	2.30
Sinclair Refining Co.	10,666,121	2.98	10,625,919	2.65	9,772,173	2.21	8,742,618	2.18	7,979,716	1.99	8,867,575	2.05	9,663,753	2.12
Barnsdall Refining Co.	.....	.....	5,169,547	1.29	234,015	0.05	88,445	0.02	.....	.....	5,263,549	1.22	7,266,879	1.59
Continental Oil Co.	.....	.....	.....	.....	.....	.....	1,288,902	0.31	4,634,784	1.15	4,599,556	1.06	4,499,660	0.98
Deep Rock Oil Corp.	5,792,844	1.62	5,050,794	1.26	6,457,041	1.46	5,661,109	1.41	3,989,686	0.99	3,470,085	0.80	3,361,997	0.74
Globe Oil & Refining Co.	.....	.....	.....	.....	24,168	0.005	290,975	0.07	418,983	0.10	564,407	0.13	1,301,915	0.28
Mid-Continent Petroleum	260,923	0.07	345,669	0.09	436,441	0.10	428,097	0.11	675,966	0.17	802,206	0.18	933,467	0.20
National Refining Co.	552,060	0.15	402,736	0.10	685,503	0.15	522,870	0.13	641,582	0.16	864,988	0.20	632,544	0.14
Champlin Refining Co.	301,173	0.08	.....	.....	273,788	0.06	284 872	0.07	284,034	0.07	338,490	0.08	375,269	0.08
Total inshipments	357,903,459		401,449,775		441,746,269		401,080,799		401,723,844		431,545,341		456,444,171	

TABLE 2

Inshipments of Gasoline into Minnesota, for 14 Years, Compared With Total Gasoline Inshipments into the State

Year	Total Gasoline Inshipments Gallons	Inshipments by Co-op. Oil Companies Gallons	% Co-op.
1922	148,910,700	216,000	0.14
1923	186,069,180	779,236	0.42
1924	213,463,230	1,500,924	0.70
1925	245,977,896	2,885,102	1.17
1926	266,148,083	8,347,956	3.13
1927	289,686,418	11,526,917	3.97
1928	328,434,163	14,291,790	4.35
1929	357,903,459	17,478,319	4.88
1930	401,449,775	24,414,753	6.08
1931	441,746,269	28,042,489	6.34
1932	401,080,799	24,109,357	6.01
1933	401,723,844	24,418,502	6.07
1934	431,545,341	30,621,890	7.09
1935	456,444,171	38,848,217	8.51

peak in 1931, declined for two years, then started rising again in 1934.

5. The largest number of plants built was in 1926 and 1935, thirty-five plants in each year.

6. Of all plants in operation last year, about 58 per cent were built since 1929.

In considering the growth of oil co-operatives in Minnesota, a point to keep in mind regarding the above statements and also the accompanying tables is that the figures are inshipments of gasoline. Inshipment figures are not sales, nor do they identify the source of gasoline, except in the case of integrated companies.

For compilation purposes, inshipments of all co-operative plants were added together to arrive at the figure for "all co-operative bulk plants," as co-operatives, in spite of divergent ownership and source of supply, have similar financial, operating and profit distribution policies.

All co-operative bulk plants in Minnesota do not market the same brand of gasoline, nor do they buy from the same source. The figure for "all co-operative bulk plants" represents total inshipments for a type of marketing operation rather than a total inshipment of a gasoline brand.

It is reported that about half the co-op bulk plants in Minnesota buy from the same co-operative oil wholesale, these plants doing more than half the co-op retail oil business in the state. Some co-op plants buy from another co-operative wholesale company, the remainder purchasing outside the co-op fold and handling mainly refinery branded gasolines.

Inshipment figures for integrated companies, also, do not tell the entire story of each company's entire marketing operations within the state. Standard Oil Co. of Indiana does not market through jobbers, but other large integrated companies do have jobber business, as well as direct company marketing operations. The inshipment figures for these integrated companies represent only the gallonage received by these companies at their own bulk plants and not gallonage sold in tank cars to a jobber, although the jobber in turn may market gasoline under the refiner's brand name.

A gasoline brand may have wider distribution than is indicated by the inshipment report of the refiner. Several integrated companies have considerably more distribution in Minnesota than is shown in the inshipment record of the company, because almost half of the gasoline sent into the state by these companies reaches the consumer through jobbers.

Also, all jobber gallonage could not be lumped together and claimed to be the total "independent" gasoline, as jobbers independent in the ownership of their business market major company brands in some cases.

Table 1 shows inshipments for all co-operative bulk plants and 16 integrated companies marketing in Minnesota, from 1929 through 1935, and the percentage of the state's total inshipments for these companies. In each of the seven years, with one exception, the combined co-op bulk plant inshipments ranked second.

The margin of the co-operative's hold on second place has been slim in some years, but in two years their margin in the percentage column was more than 2 per cent over that of the third place company. In 1929 co-ops were 0.85 per cent above third place; in 1930, 2.50 per cent; in 1931, 1.51 per cent; in 1932, 0.72 per cent; in 1934, 1.04 per cent; and in 1935, 2.18 per cent. For 1933 co-op inshipments gained in volume but declined in percentage. In that year co-ops were in third place, 0.05 per cent behind the second place company.

Table 2 shows the steady gain of co-operative bulk plants inshipments in the past 14 years,

TABLE 3

Number of Co-op Oil Companies, and their Bulk Plants, in Minnesota, from 1922 to 1935, and Average Annual Gasoline Gallonage per Bulk Plant

Year	Number of Co-op. Oil Companies	Number of Co-op. Bulk Plants	Total Inshipments Co-op. Oil Co. Gallons	Average per Bulk Plant Gallons
1922	3	3	216,200	72,066
1923	5	6	779,236	129,872
1924	11	12	1,500,924	125,060
1925	16	18	2,885,102	160,283
1926	43	53	8,347,956	157,508
1927	50	65	11,526,917	175,260
1928	55	73	14,291,790	195,777
1929	70	92	17,478,319	189,981
1930	81	107	24,414,753	228,175
1931	94	122	28,042,489	229,856
1932	101	132	24,109,357	182,646
1933	108	144	24,418,502	169,572
1934	115	158	30,621,890	193,809
1935	140	188	38,848,217	206,639

b[illegible]tual gallonage and in t[illegible]entage of the state's to[illegible]shipments. In 1922, the first full year after the co-op. movement started, all co-op. plants inshipped only about 27 tank cars, representing 0.14 per cent of the state's total. After two more years of steady growth the co-op. plants in 1925 broke over the 1 per cent mark.

The steady growth, in volume and percentage, continued for Minnesota co-ops until 1931, when in that year these bulk plants shipped in 6.34 per cent of the state's total. By 1932 the general decline in gallonage had set in. Shipments into Minnesota that year were 40,000,000 gallons less than in 1931. And co-op. bulk plants along with other companies suffered.

After the decline in 1932, to 6.01 per cent of the state's total, the co-op. percentage once more began to rise. Last year these co-op. bulk plants shipped in 8.51 per cent of gasoline reaching the state.

The part that individual companies and bulk plants play in building up the large percentage of business done by co-ops is seen in Table 3, showing the number of co-op companies and bulk plants operated, and the average inshipments per bulk plant from 1922 through 1935.

The number of plants operated reached in excess of 100 in 1930 and it has grown until, in 1935, there were 140 co-op. companies operating 188 bulk plants in Minnesota.

The curve for the average annual inshipments per bulk plant is more uneven than that showing the steady rise in total inshipments for all bulk plants. This average rose and dipped, year to year, until the peak was reached in 1930, with 228,175 gallons, and in 1931 the average mounted to 229,856 gallons. The decline of 1932 and 1933 was turned upwards in 1934, and again in 1935 the average per plant was higher than for the previous year.

Variations from year to year in the average inshipments per plant can be explained in part by new plants. In compiling these figures a new bulk plant was counted for the year, whether it had been operating the full twelve months or just a few months.

TABLE 4

Growth in Number of Co-op Oil Companies and Bulk Plants, in Minnesota, from 1922 through 1935

Year	Companies Operated	Companies Organized	Companies Discontinuing Business	Bulk Plants Operated	Bulk Plants Built	Bulk Plants Discontinuing Business as Co-ops
1922	3	3	0	3	3	0
1923	5	2	0	6	3	0
1924	11	6	0	12	6	0
1925	16	5	0	18	6	0
1926	43	27	0	53	35	0
1927	50	7	0	65	12	0
1928	55	5	0	73	8	0
1929	70	15	0	92	19	0
1930	81	11	0	107	15	0
1931	94	15	2	122	17	2
1932	101	7	0	132	10	0
1933	108	9	2	144	14	2
1934	115	12	5	158	18	4
1935	140	28	3	188	35	5

A study of inshipments of the co-op. bulk plants which were started in 1935 shows a wide range. The largest co-op. company, operating one bulk plant, shipped in 348,302 gallons. On the other end of the scale was one plant shipping in only 8022 gallons, another with 26,584 gallons, and another with only 27,860 gallons, some of these plants with small gallonage undoubtedly being new plants operating only a few months of the year.

Table 4 is a record of the growth of co-operative companies and bulk plants in Minnesota, also of companies and plants discontinuing business as co-operatives, from 1922 through 1935. Aside from the steadily increasing number of companies and bulk plants operated, the table reveals the years of greatest co-op. growth and the mortality as being in the past three years.

Government Aid to Co-ops Is Opposed in Report

WASHINGTON, Oct. 5.—Declaring it is improper for governmental agencies to extend preferential treatment to consumer co-operatives such as tax exemption, financing or other aid, a committee of the U. S. chamber of commerce urges that such co-ops be required to progress on their own merits.

The chamber of commerce report was based on a study of consumer co-operatives made at the request of business men faced with competition from such co-operatives and of manufacturers considering using co-operatives as outlets for their products.

The report estimated that there are about 1800 consumer co-operatives in the United States. Of these, about 56 per cent are engaged primarily in selling gasoline and motor oil and 34 per cent are engaged in retail store activities, the report said.

Tax exemption for consumer co-operatives is the subject of another report just issued by the American Retail Federation.

The federal law does not specifically exempt consumer co-operatives from taxation, although the earnings of co-operatives which are "farmers, fruit growers, or like associations" are exempt from the federal income tax, the report says.

Attention is called to a decision by the circuit court of appeals for the District of Columbia upholding a ruling the U. S. Board of Tax Appeals, which declared that amounts distributed as patronage dividends by a consumer co-operative book store at Stanford University are taxable as earnings.

State income tax laws as regards consumer co-operatives are also analyzed in the report.

The report cites the recent decision of the Indiana appellate court, in the case of State Treasurer Storen against the Jasper County Farm Bureau, which declared that patronage dividends of farm co-operatives are taxable under the Indiana gross income tax law of 1933.

High Chain Store Tax on Stations Returns Less Money in Indiana

INDIANAPOLIS, Oct. 1

A HIGH rate of tax on filling stations in Indiana under the provisions of the chain store tax law caused the state to lose money. In 1935, when the tax rate per outlet was $150, only 898 filling stations in that state paid a chain store tax, their total payment amounting to $110,090.

In 1934, the first year of the $150 rate per outlet, 1719 filling stations paid a total chain store tax of $224,766. In 1933, when the top unit rate was $25 per outlet, 5148 filling stations paid a total chain store tax of $134,936 to the state of Indiana.

These points were brought out by Frank E. Packard, chairman of the central division of the American Petroleum Industries Committee, in an address before the 29th annual conference on taxation under the auspices of the National Tax Association meeting here Sept. 28 to Oct. 1.

Emphasizing the confiscatory nature of the chain store tax burden on filling stations, Mr. Packard pointed out that, because of the limited number of commodities sold at the typical filling station, its volume of business is much less than that transacted by the chain store.

"A tax which might be moderate in its effect on chain stores, might constitute confiscation when levied on the relatively small volume of business transacted by a filling station", he commented.

To advance this point, Mr. Packard took an example in West Virginia in 1933, showing that a group of 2453 filling stations did an annual volume of business of $15,198,638, or 4.6 per cent of all retail business in the state, as compared with $75,454,257, or 22.9 per cent of the total, for 1889 chain stores.

The group of West Virginia filling stations, however, accounted for 84.46 per cent of the total payments under the chain store tax, whereas the 1889 chain stores, with five times as great a volume of business, contributed only 1.7 per cent of the chain store tax, or less than one-eighth as much as the filling stations.

He mentioned other examples of inconsistent chain store taxation. In one instance the chain store tax paid by the filling station was 14 times as great as in the case of the typical five-and-ten cent store, although the filling station's gross sales were only one-sixth as great. In another case the tax on the filling station was one and one-fifth times that on the typical chain grocery store, although the filling station's gross sales were only one-eighth as great.

Mr. Packard outlined several important reasons why filling stations differ from chain stores, as follows:

(1) Filling stations feature service rather than volume of sales and turnover of merchandise.

(2) Gasoline and other petroleum products sold at filling stations bear a peculiar tax burden not borne by merchandise distributed through chain stores.

(3) The volume of business transacted at the typical filling station is so small as compared with that of the average chain store that a moderate tax on the chain store would constitute confiscation when applied to the filling station.

(4) Independent retailers operate under no serious competitive handicaps in the petroleum industry.

It was brought out that special taxes are levied on chain stores in 21 states at the present time.

Both Buyer and Seller are Named In Patman Law Complaints

WASHINGTON, Oct. 3

FIRST action under the Robinson-Patman anti-price discrimination law indicates that the Federal Trade Commission regards the law as a two-edged sword, to be used against the buyer receiving the discriminatory price as well as the seller.

Included as a respondent in one of the three complaints issued by the commission Sept. 30 was Montgomery Ward & Co. The Chicago mail order house was charged with violating the Robinson-Patman law by knowingly receiving a discriminatory price from Bird & Son, Inc., and Bird Floor Covering Sales Corp., both of East Walpole, Mass.

The other two complaints charged Kraft-Phenix Cheese Corp. and Shefford Cheese Co., Inc., with quoting discounts to retailers which were graduated downward on larger quantities.

So far, no complaints involving oil marketing have been issued under the law. But at least one delegation of oil men has conferred with commission officials in an effort to interest the FTC in marketing practices which they regard as violating the anti-price discrimination law.

Investigators from the commission who say they are working on a case under the Robinson-Patman law have been interviewing oil jobbers in the middle west.

The R-P law, if sustained by the courts, is expected to have a far-reaching effect on oil marketing. Passed in the closing days of the last Congress, the new law limits quantity discounts to savings in cost of manufacture, sale or delivery resulting directly from the partic-

ular method of sale or delivery in the particular case. This places a premium on low-cost selling and transportation.

One large oil jobber in the east, reasoning that he must give his supplier some basis for justifying the low prices he gives the jobber because of a large gallonage, is going in heavily for water terminals.

Several tire companies have cancelled contracts (suposedly because of the R-P law) to manufacture tires for certain mail order houses and oil companies. But these concerns may still be able to obtain tires at lower prices than those available to tire dealers and smaller oil companies.

By making new contracts with other tire companies for the manufacture of tires according to the reseller's specifications during the off-season, taking large deliveries at one time and selling under the reseller's brand, it may be possible to effect a saving in cost resulting from this type of sale and delivery which will enable the tire company to quote a price considerably below that available to other resellers and still not violate the Robinson-Patman law.

Several of the major oil companies are reported to be carefully scrutinizing all their accounts to see if there are any possible violations of the R-P law are involved. What changes in their marketing policies may be the outcome remains to be seen.

Whether because of the R-P law or not, one major company is reported to have changed its policy regarding national accounts. It is said that this company is now applying its commercial discount schedule to total purchases within a single state.

National accounts—the pooling of all purchases by a large consumer or group of consumers operating in a number of states and selling each plant or unit at a price based on the total gallonage purchased in all states—have long been the subject of complaint by independent oil marketers.

There is not much basis for comparison between tre quantity discount system mentioned in the complaints so far issued under the R-P law and marketing practices in the oil industry. Quantity discounts to consumers are not involved in these cases, only discounts to retailers.

In the Montgomery Ward-Bird case, the manufacturer is charged with quoting prices to retail stores of mail order houses which were considerably lower than those offered other retailers and only slightly higher than prices quoted to wholesalers. Moreover, these prices, the complaint charges, applied to any quantity bought by the retail stores of the mail order house, whereas other retailers had to buy in lots of 100 or more to get the maximum discount available to retailers generally.

The cheese company cases were almost the same in their facts. Briefly, the complaint said that the more cheese bought, the greater the discount.

Many Live Topics on Program For Marketers' Convention

WASHINGTON, Oct. 5

THE program for the annual convention of the National Oil Marketers Association Oct. 27, 28 and 29 in Chicago is studded with topics of vital importance to the independent oil jobbers, according to the tentative program released by Paul E. Hadlick, secretary.

On the morning of the opening day there will be an address of welcome by Mayor Kelly of Chicago. M. B. Whiting, Clifton Forge, Va., president of the National Oil Marketers Association, will talk on "What Price Independence?" Warren C. Platt, editor and publisher of **National Petroleum News** and Platt's Oilgram, will speak on "What Tomorrow Holds for the Jobber." Discussion of the so-called Iowa plan of marketing, by speakers to be announced later, will follow these addresses.

Tuesday afternoon, the delegates will visit the petroleum exhibit at the Chicago Museum of Science and Industry, costing approximately $250,000, which was at the "Century of Progress Exposition" in 1933-34.

The anti-trust laws, including the current investigation of major oil companies by a federal grand jury at Madison, Wis., and its possible ramifications, will be the main subject the second morning. Roy R. Fisher, Argo Oil Corp., Detroit, who is the NOMA vice-president, will preside and speak on "The Independent Oil Jobber's Need of a National Association."

Three related addresses will follow. The first will be an authoritative explanation of "The Anti-Trust Laws of the United States" by a speaker to be announced; followed by an address on "Damage Suits in Anti-Trust Cases," by Ralph E. Burdick, Duluth attorney. Speaking on "The Follow-Through in Your State," Wm. Earle White, of Petersburg, Va., will suggest how state laws may be invoked by independent jobbers in various states, in conjunction with the national association's nation-wide efforts to better marketing conditions. Secretary Hadlick's annual report will include an account of the co-operation of the association with the Department of Justice to enforce the anti-trust laws.

The concluding session the third morning will be devoted mainly to the proposed oil marketing code. Discussion will be led by P. J. Schroeder, Minneapolis jobber, who was chairman of the Chicago code conference, and W. R. McCain, Springfield, Mo., representative of independent oil jobbers when the code now before the Federal Trade Commission was drafted.

An address on the Robinson-Patman law by a speaker to be announced, and a talk by G. Denny Moore, of the Gasoline Pump Manufacturers Association, also are on the program for the closing session.

Oil Companies Chided for Failing To Ante In Campaign Funds

By Teletype
WASHINGTON, Oct. 6

TWICE within a week individual oil companies have been spotlighted for their attitudes in the current political campaign.

An unnamed oil company in Texas was "warned" Sept. 28 by Chairman Lonergan of the Senate campaign investigating committee for allegedly placing slips in pay envelopes urging its employes to support Landon and Knox.

Incidentally, Louis R. Glavis, formerly with Secretary Ickes, is chief investigator for Lonergan's committee. Glavis was chief of the division of investigation under Ickes when he was oil administrator.

Another political maneuver involving oil companies was the statement Oct. 2 of Karl A. Crowley, solicitor of the Post Office Department, attacking several of the larger oil companies for not supporting Roosevelt and Garner. Crowley had just returned from a trip through the Mid-Continent, it is understood.

The Post Office Department's press section telephoned newspapermen to say a press release by Crowley was available. Receiving the statement through official channels, newspapermen were somewhat surprised at its political character.

Crowley's statement remarked that he has written Roy Miller, chairman of the Fund-raising Committee for the Democratic party in Texas (Crowley's home state), commenting on the political stand taken by heads of the large oil companies. He says that independent oil companies are "loyally supporting" Roosevelt and that employes of the major companies are refusing to follow their employers into the Republican ranks.

He cites figures purporting to show how earnings of several oil companies have increased under Roosevelt and criticizes them for "biting the hand that feeds them."

"Just why the heads of these corporations," Crowley's statement concluded, "should feel that they are God's chosen people and should not bear any just part of the burden of saving this country out of their stupendous incomes is beyond the comprehension of we ordinary mortals. The only way to meet their vicious attacks is for we small people who are patriotic to aid Mr. Miller's committee as much as we can."

Oil was again in the political news columns Oct. 5 when Secretary Ickes issued a statement in the name of the petroleum conservation division of the Interior Department. In it Ickes replied to charges by the Republican National Committee that the Roosevelt administration, through the O'Mahoney-Greever leasing law, has "frozen out the little fellow" from participating in the development of oil and gas deposits on public lands.

"Such an attack upon a wise conservation law as has been made by the Republican National Committee comes naturally, if with poor grace, from the party of the malodorous Teapot Dome scandal," Ickes said.

Text of the Crowley Statement

The complete statement of Mr. Crowley was as follows:

"I have today written to Mr. Roy Miller, Chairman, Democratic Campaign Committee for my home State of Texas, calling attention to the extraordinary situation which exists with reference to the political position taken by the heads of the great oil companies.

"While independent oil companies are loyally supporting the President who has been their salvation and the employees of the major oil companies are demonstrating their independence by refusing to follow their employers into the Republican ranks and are giving their support to President Roosevelt who they know to be their best friend, the heads of great oil companies who have been among those most benefited by the Roosevelt prosperity are pouring out money in a vain effort to defeat his reelection.

"The following facts taken from New York Stock Exchange reports demonstrate the effect of recovery in the oil business:

"The Sun Oil Co., owned by the Pew family, heavy contributors to the miscalled Liberty League, the Republican Campaign in Maine and other Republican Campaigns, has increased in value from $108,000,000 in 1932 to $184,000,000 in 1936, a net increase of $76,000,000. Its profits have increased from $4,000,000 in 1932 to somewhat more than $7,000,000 in 1935, an increase from $2.25 a share to $3.16.

"The value of stock of The Texas Corp. has sky-rocketed from $87,900,000 in 1932 to $373,000,000 in 1936, and its stock has risen from $9.25 to $40 a share. While in 1932 this company had a *deficit* of $2,161,841, in 1935 it showed a *profit* of $17,300,075. A *loss* of 22 cents a share in 1932 became a *profit* of $1.82 in 1935.

"The Humble Oil Co. is a subsidiary of the Standard of New Jersey. The Standard of New Jersey is a corporation of Mr. Rockefeller, who not only is a heavy contributor to the Republican party, but boasts of it. His corporation has fared almost as well as the others. While in 1932 the total value was $118,000,000, in 1936 its value is $687,000,000. This is a tidy profit to be received by these gentlemen from the hands of the Administration which they are striving to defeat. Its earnings, which were $1.68 per share, in 1932, had increased to $2.67 in 1935. A profit to the Humble of $14,000,000 in 1932 had increased to a profit of $23,000,000 in 1935.

"The Shell Co. has made an astounding recovery since 1932. In that year it *lost* 49 cents a share, whereas in 1935 it *earned* 36 cents a share. In 1932 it *lost* $660,000 and in 1935 made a *profit* of $6,812,000. In the first six months of 1936 it made a *profit* of $6,392,000. The value of the Shell has increased from $235,000,000 in 1932 to $313,000,000 in 1936.

"The earnings of the Consolidated Oil Corp. (Sinclair) jumped from $1,601,000 in 1932 to $11,306,000 in 1935. Its total value increased from $56,000,000 in 1932 to $213,000,000 in 1936.

"The Gulf Oil Co., controlled by the Mellon interests of Pittsburgh, among whom are found the heaviest contributors of money to be utilized in an attempt to defeat Roosevelt and

Garner, has also profited by the recovery which the Mellons complained was forced on the people by Franklin Roosevelt. The Gulf, which had a *loss* of 61 cents a share in 1932, *earned* $2.27 a share in 1935. A 1932 *deficit* of $2,768,000 became a *profit* of $10,551,000 in 1935. The value of the Gulf, which in 1932 was $104,000,000, has increased until it is now $475,000,000.

"One Rockefeller company alone has profited to an extent equalling almost the entire Federal aid to farmers and half the amount paid to all our soldiers. Its value, which on March 3, 1933, was $618,000,000, increased by May 29, 1936, to $1,538,000,000, and has since increased to approximately $1,700,000,000, a clean cut profit and enhancement in value of more than one billion dollars.

"No doubt these profits would not have been so enormous or so much money be spent against the Democratic Administration if the Democratic Congress had refused to continue the law that allows these oil companies to deduct 27½ per cent of their gross production revenue for depletion before paying income taxes, instead of making them prove actual depletion as other businesses are required to do. If there ever were cases of biting the hand that feeds them then the campaign speeches of bitterness and vituperation and money spent against our President by J. Edgar Pew and others are fair examples. Just why the heads of these corporations should feel that they are God's chosen people and should not bear any just part of the burden of saving this Country out of their stupendous incomes is beyond the comprehension of we ordinary mortals. The only way to meet their vicious attacks is for we small people who are patriotic to aid Mr. Miller's Committee as much as we can."

Depletion Allowance Protects The Small Oil Producer

By Teletype
TULSA, Oct. 6

THE depletion allowance of 27.5 per cent of gross production revenue referred to in the statement by Karl A. Crowley, solicitor of the postoffice department, is recognized as a relatively greater benefit to the small producer than the large company operating in many oil fields. The fight to secure it in the provisions of the revenue act and to retain it against many onslaughts since has been led by the Mid-Continent Oil & Gas Association, which includes in its membership hundreds of small operators in the southwest.

The depletion allowance provides that the small operator, who drills wells of flush produciton after perhaps spending years in which he has little but dry holes to his credit, may, from the income from this flush production, recover enough to allow him to continue to operate in the future and does not force him to pay such an exorbitant tax as he would otherwise be forced to do on a successful year of operations after several with a loss.

A depletion allowance based on discovery, or the hazard in industries which exhaust mineral assets through operation of the business, was first introduced in the revenue act of 1918, which was enacted Feb. 24, 1919.

The policy of Congress to recognize such extraordinary risks and hazards of industries which must depend upon discovery of hidden mineral resources for their continued existence was reasserted in the Revenue Acts of 1921 and 1924.

Discovery depletion in the 1918 act, modified in 1921, was brought out more clearly by a provision in the 1924 act which declared; "but such depletion allowance based on discovery value shall not exceed 50 per cent of the net income (computed allowance for depletion) from the property upon which the discovery was made, except that in no case shall the depletion allowance be less than it would be if computed without reference to discovery value."

This and the preceding acts called for analytical appraisal of every oil producing property and was a costly burden both to the taxpayer and the government and resulted in great delay in settling taxpayers' cases. After a long and exhaustive study of the question by a congressional committee in 1926, a percentage basis of depletion was adopted and this has been repeated in subsequent acts.

The provision now is and has been since the act of 1926 that the allowance for this continuance of the business of finding and developling oil fields shall be 27.5 per cent of gross income but that it shall not exceed 50 per cent of net income.

The last attempts of consequence to change the existing allowance were in 1934. A subcommittee of the House Ways and Means Committee had recommended that allowances for depletion and depreciation be decreased by 25 per cent for the years 1934, 1935 and 1936, and the acting secretary of the treasury recommended that the percentage depletion provisions be eliminated altogether. The Mid-Continent Oil and Gas Association, which has lead the fight throughout for adoption and retention of depletion allowances, again succeeded in convincing the committee that the allowance is a necessary one and no change was made.

Denies New York Probe Is To Be Dropped

NEW YORK, Oct. 1—The legislative committee investigating the gasoline business in New York state met here today and continued formulation of its plans for procedure.

Delay in getting the investigation under way had given rise to the belief in some quarters that the investigation will be dropped, Alger A. Williams, general counsel for the committee, said at the close of the meeting.

"To the contrary," Mr. Williams said, "the investigation will be pushed vigorously once the plans for procedure have been finally decided upon."

Tentative draft of a questionnaire, which is to be sent to all oil companies in the state seeking data on gasoline marketing practices, was submitted to the committee today. The questionnaire will be sent out after minor revisions have been made, probably within the next 10 days.

Will Recommend Congress Extend Interstate Oil Compact

By LAWRENCE E. SMITH
N. P. N. Staff Writer

OKLAHOMA CITY, Oct. 3 THE Interstate Compact Commission, the agency of representatives of six oil producing states set up under the interstate oil compact, thinks highly enough of the working of the compact that it wants it continued.

The compact expires by its own terms next Sept. 1. The commission, at its regular meeting here Oct. 2, voted to recommend to the several state legislatures and to Congress that it be extended for another two-year period. Texas, Oklahoma, Kansas, Illinois, Colorado and New Mexico are members.

Beyond laying plans for the renewal of the compact on the same basis it now rests, the commission elected officers, and set the date for the next meeting, Dec. 1 in Oklahoma City. There were progress reports from the standing committees which are at work on various phases of the conservation theme and they hope to have some recommendations ready for the legislatures of their states to strengthen conservation laws.

Gov. E. W. Marland, Oklahoma, prime mover in setting up the compact, has been chairman since the first organization meeting in early 1935. The time had come to elect officers again. He recommended that the principle of rotation in office be followed. Homer Hoch, chairman of the Kansas Corporation Commission, designated by Gov. Landon to be the state's representative on the compact commission, nominated Col. E. O. Thompson, chairman of the Texas Railroad Commission, to succeed Chairman Marland. It was so ordered. All present gave Gov. Marland a rising vote of thanks for his work.

First vice-chairman for the next term is the representative of New Mexico, who at this time is Hiram Dow, Roswell. Governors of the compacting states choose their representatives. In reality, the governor is the member, but he may designate some one else to represent him. The new second vice-chairman is the representative of Illinois, William Bell.

The new chairman asserted he would re-appoint Art L. Walker to be secretary of the commission. Mr. Walker, first conservation officer of Oklahoma and one time chairman of its corporation commission, devotes full time to compact work.

New Chairman Thompson made a little talk, said that he felt that through the compact the task of true conservation is being approached on a "sound, constitutional basis." He asserted that Texas is getting along splendidly with non-compacting Louisiana on conservation problems as they pertain to the Rodessa field, which lies in both states. He said that Louisiana, following a joint meeting held several weeks ago, had reduced gas wastage in its end of Rodessa.

Thompson urged compact members to be in Washington Oct. 10 to meet with Bureau of Mines representatives for discussion of forecasts of market demand.

Oil men and trade association representatives at the Oklahoma City compact meeting were invited to speak. Charles F. Roeser, president of the Independent Petroleum Association of America, said the compact had brought a feeling of security to independent operators and said that the election of Col. Thompson had the approval of Texas independents.

He said he thought the compact commission might properly inquire into the economic level of above-ground storage and indicate he believed that level had been reached and that, on the basis of storage withdrawals over many months, current production might well be increased by 70,000 barrels daily.

MR. ROESER asserted that the long struggle for stable conditions had been rewarded by reduction of the spread between high and low annual points in crude production. The extreme was 600,000 barrels daily, it has been cut to 350,000 and he believes it possible to bring it down to 200,000 barrels. Independent refiners now are in better shape to carry storage, he said, because oil in storage is accepted as better loan collateral than formerly. He suggested that in aid of further stability the Bureau of Mines be asked to forecast demand over a six-months period, with revisions each 30 days, instead of the one-month forecast now made.

Wirt Franklin, independent producer, said two things of major importance to the industry should be attended to by Congress. One was renewal of the Connally law, under which illegally produced oil is barred from interstate commerce. The other is restriction on imports. Under the NIRA code, agreement was worked out with importers to limit to 4.5 per cent of U. S. consumption. This worked fairly well, he said, but imports are increasing and only Congress can impose a restriction.

William R. Boyd, vice-president of American Petroleum Institute, New York, again stated his declaration of faith in the compact work. He said

Daily Average Production, Important Districts, American Petroleum Institute Figures

	Week Ended Oct. 3	Sept. 26
	Barrels	Barrels
Oklahoma City	131,950	143,500
Total Oklahoma	547,500	580,550
East Texas	436,550	435,900
Total Texas	1,169,200	1,156,300
Rodessa	56,400	59,100
Total Louisiana	235,700	238,650
California	564,100	569,300
East of Rockies	2,423,700	2,460,750
Total U. S.	2,987,800	3,030,050
Crude Imports	123,000	75,280
Total New Supply	3,110,800	3,105,330

he hoped some day to appear at such gatherings as an independent producer, as he had joined Wirt Franklin in a wildcat test in New Mexico.

It had been advertised that some acrimonious debate would take place at the meeting concerning the big jump in allowable production made by the Texas Railroad Commission, which became effective Oct. 1. There was an increase of 73,048 barrels over the Bureau of Mines' recommended top for the state; it was 54,274 barrels above the basic allowable set by the commission effective Sept. 1.

Col. Thompson came to Oklahoma City a day early and held open house to discuss the matter. He contended firmly that the Bureau estimate was too low and that there was real market demand for the allowable fixed in the new order. He pointed out that the bureau had recommended increases for both Louisiana and New Mexico, a reduction for Texas; that the commission would not be a party to any diversion of the Texas market to other states.

E. H. Moore, Tulsa independent, who is a large operator in the Fitts pool of Oklahoma, has filed with the Oklahoma Corporation Commission petition for increase of 50,000 barrels in that state's allowable. His position was that, if there is to be any "upping" in allowable production, he wanted Oklahoma to be in on it.

Explains Why Estimate For Texas Was Reduced

WASHINGTON, Oct. 1.— Increased demand for Louisiana and New Mexico crude oil was the reason for the Bureau of Mines cutting down its estimate of demand for Texas oil during October, according to the explanation of a bureau official.

Chairman Thompson of the Texas Railroad Commission had charged that the Bureau of Mines, in reducing the estimated demand for Texas by 17,000 barrels, while increasing the Louisiana and New Mexico figures, had "discriminated" against Texas.

In forecasting production required to meet demand for oil produced in the various states, the Bureau of Mines must follow what the latest available information indicates is the trend of demand for oil from these states, it was explained.

Since Louisiana, and New Mexico, to a lesser extent, have been overproducing and indications are that the oil is being sold, there must be a demand for it, the bureau reasons. By the very nautre of things, if demand for oil from these states goes up, and Oklahoma about holds its own, the demand for Texas crude is going to drop, it was said.

Texas Jumps Allowable Over Bureau Figure

TULSA, Oct. 3. — Texas' increase in allowable production for October, which caused no end of furor among operators of other states, amounted to 73,048 barrels daily over the Bureau of Mines recommendation and placed the top figure for Texas at 1,179,948 barrels daily.

This is what is known as the "basic" figure, as by the end of the month the allowable is usually much higher than at the beginning. Reason for the increase is completion of new oil wells, each of which is given the prevailing rate of production and in most fields this is added to the total and not taken off other wells. There is also an increase in several pools each month not counted on when the base figure is set. Such increases come about through purchasing companies showing that additional market has developed for the oil there.

The Texas figure for October is 54,274 barrels above the base allowable at the start of September and is only 6335 barrels more than the actual allowable on Sept. 26. Most of the gain, therefore, had been made during September.

The East Texas allowable was left unchanged as to percentage of potential—2.32 per cent of the hourly rating of each well —but a majority of the wells in this field are on the marginal basis of 20 barrels as the statutory minimum is interpreted by the commission.

The Bureau of Mines had recommended a decrease of 17,000 barrels daily in Texas allowables from its own September figure. Col. E. O. Thompson, chairman of the Texas Railroad Commission, asserted the Bureau had not taken into account the true demand for Texas oil; that it had recommended a reduction of 21,700 barrels for the entire U. S., of which Texas was to lose 17,000.

Both Oklahoma and Kansas followed exactly the Bureau of Mines' estimate of market demand for October, Oklahoma's Corporation Commission issuing an order setting allowable at 559,900 barrels, down 3100 barrels daily from September, and the Kansas Corporation Commission limiting the state's output to 155,000 barrels daily, a cut of 5000 barrels from September.

Louisiana, as usual, paid no attention whatever to the Bureau estimate and its October allowable of 235,200 barrels daily, the same as for September, is 45,900 barrels more than the Bureau suggested.

High Court Ruling Soon On Texas Gas Order

WASHINGTON, Oct. 5.— Among the cases pending before the U. S. Supreme Court, which has resumed its sessions, is one involving the right of Texas to prorate the production of natural gas in the Texas Panhandle and other fields.

A statutory three-judge court held, in *Thompson vs. Consolidated Gas Utilities Corp.,* that the Texas Railroad Commission's order prorating gas production issued under the new state gas conservation law, was invalid as an attempt to force the gas companies to share their markets with producers who have no markets.

The Texas commission has asked the supreme court to take jurisdiction and decide whether or not the state of Texas can lawfully prorate gas production. This is one of the cases which the court may announce a ruling on, when it meets again Oct. 13. The court session Oct. 5 was only perfunctory.

Polymerization to Feature Second W.P.R.A. Operator Meeting

TULSA, Oct. 3

POLYMERIZATION, with the groundwork for discussions laid by representatives of the licensors of the two processes currently in the spot light, will be the feature topic at the second of the series of meetings being held this fall for plant operators in the Mid-Continent refining district under the auspices of the manufacturing committee of the Western Petroleum Refiners' Association.

This second meeting will be held in Tulsa, at the Mayo hotel, on Oct. 13. The third meeting will be in Fort Worth, at the Blackstone hotel, Oct. 27, and the fourth meeting in Shreveport, at the Washington-Youree hotel, Nov. 6.

The representatives of the polymerization process licensors will be Dr. Gustav Egloff of Universal Oil Products Co., Chicago, and Wright Gary of the M. W. Kellogg Co., New York. Doctor Egloff's subject will be "Motor Fuel From Catalytic Treatment of Cracked Gases." The exact title of Mr. Gary's paper had not been announced.

In addition to those two papers on polymerization, a discussion of the Wiggins Balloon System will be given by J. H. Wiggins, of Chicago, along with a paper on "Color Stability of Gasoline", which will be prepared by chemists for the Globe Oil & Refining Co., The Skelly Oil Co., and the Continental Oil Co.

The first of these series of meetings, held at Wichita, Kan., Sept. 29 and attended by approximately 100 plant operators of Kansas and northern Oklahoma, indicated clearly that the operators are thinking definitely along economic lines whenever there is a discussion of new methods or new designs. Considerable interest was shown, for example, in that part of the paper on "The Copper Sweetening Method" in which W. A. Schulze and L. S. Gregory gave the initial cost of plants using this method, the cost of operation and the per cent savings already realized in chemical costs over previous methods at those plants.

That the operators were doing a good deal of mental adaptation of the method to their particular operations was indicated by the variety of questions asked Mr. Schulze after he had finished reading the paper. To one question, "What are the relative costs between treating light oils made from sweet and sour crudes?" the operators almost with one accord leaned forward to hear Mr. Schulze's reply that the method will handle either gasolines with no noticeable difference, and that it really brings treating costs down to an equivalent basis.

The matter of economics came up again when G. B. Hanson of the Petroleum Rectifying Corp., Houston, was explaining the new method of treating crude oil at refineries for removal of acids and salts. After Mr. Hanson had said that 15 to 20 per cent fresh water was required to make the oil-water emulsion, a Kansas operator wanted to know how refiners were going to dispose of that water except by evaporation, and if that method was used, would this additional cost be justified through the economies obtained by longer plant run due to the removal of the coke and scale forming impurities in the crude.

Mr. Hanson replied that each plant presented an individual problem in economics, but that in the case of one installation, a Dubbs unit which formerly could be operated only 15 days before shutdowns for cleaning out now has a 30-day operating cycle, and that in another plant manufacturing asphalt the solubility of the asphalt had been raised as a result of the treatment of the crude by this method. Each refiner, Mr. Hanson concluded, has to decide for himself whether the treating costs and a resultant longer operating cycle or the cost of more frequent cleanouts without having treated the crude will prove the more economical. The paper by R. P. Mase on "Present Day Tendencies in Petroleum Cracking" developed some general discussion, particularly along the lines of polymerization. A majority of the plant operators present were from some of the smaller independent refineries, and they appeared eager to learn what was in the polymerization picture for them. One operator asked Mr. Mase if a poly plant was feasible for a small refinery, to which Mr. Mase replied that at present it did not appear to be but that he would not attempt to predict what the future holds.

Program for the remaining three meetings for plant operators in the Mid-Continent refining district is as follows:

Tulsa, Oct. 13

"Motor Fuel From Catalytic Treatment of Cracked Gases," by Dr. Gustav Egloff, Universal Oil Products Co.

"Polymerization," by Wright Gary, M. W. Kellogg Co. (Exact title to be announced).

"The Wiggins Balloon System," by J. H. Wiggins, J. H. Wiggins Co.

"Color Stability of Gasoline," by Globe, Skelly and Continental Oil Companies. (Speaker to be announced).

* * *

Fort Worth, Oct. 27

"The Economics of Gasoline versus Tractor Fuel," by C. G. Krieger, Ethyl Gasoline Corp.

"Corrosion of Heat Exchangers and Condenser Tubes," by N. W. Mitchell, Chase Brass & Copper Co.

"Discussion of Petroleum Testing Methods," by R. W. Provine, Mid-Continent Petroleum Corp.

Fourth paper to be announced.

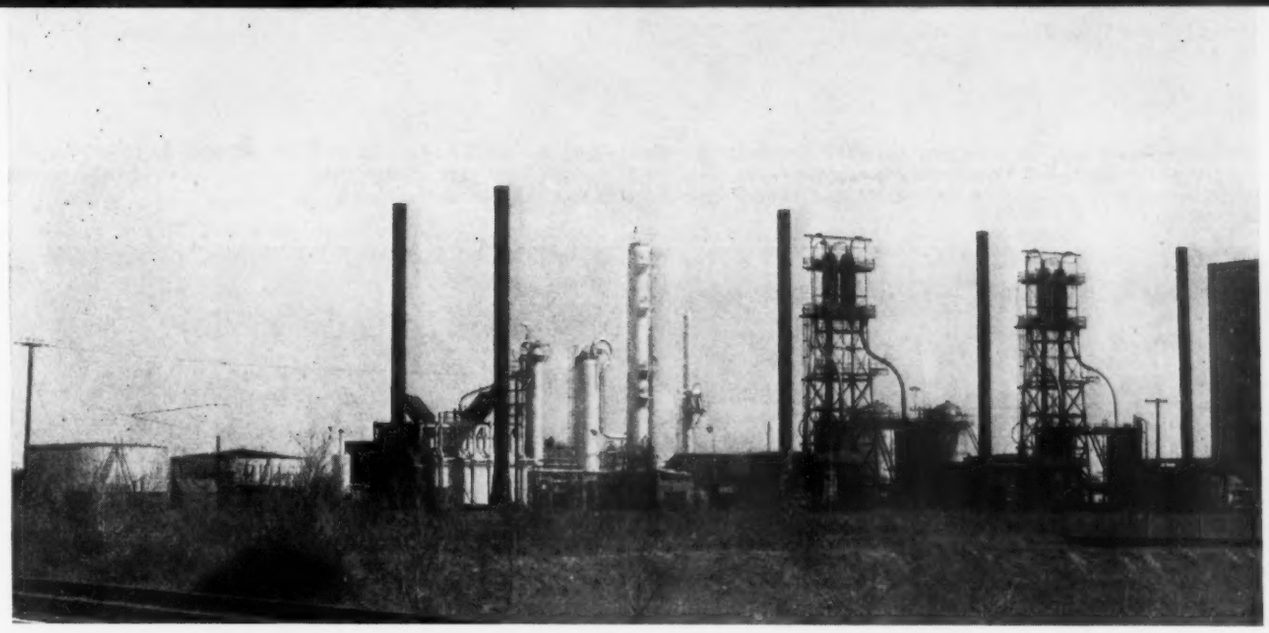
* * *

Shreveport, Nov. 6

Paper presented by Dr. M. R. Mendelbaum, The Gray Processes Corp. (Title to be announced).

"Disposal of Refinery Waste," by L. C. Burrough, Shell Petroleum Corp.

"Furnaces," by Frank H. Praeger, Alcorn Combustion Co.



The Old and the New. The new 2500-barrel two-furnace Dubbs cracking unit at Barnsdall's Wichita, Kans., refinery, shown at the left of the view, with the obsolete unit which it replaces, shown at the right. The old unit handled 1400 barrels of charge, or about half of the capacity of the far more compact and efficient unit recently placed in operation

New Furnace Design Features Dubbs Unit at Barnsdall Refinery

Staff Special

WICHITA, Kan., Oct. 2

By ALLEN S. JAMES
N. P. N. Staff Writer

AN EXTENSIVE modernization program, started last June by the Barnsdall Refining Co. at its Wichita, Kan., plant and calling for the installation of a cracking unit embodying a comparatively new furnace design, and two treating processes of somewhat recent development, is in its final stage. A small amount of minor construction work and the necessary testing of the new equipment in order to swing it into the plant's operating routine is all that remains to be done, except the inevitable after-construction cleaning up of the refinery yard.

There is now standing, on the spot where once was located a huge pile of coke accumulated through the years from the old cracking units, a new two-furnace Dubbs cracking plant having a capacity rating of 2500 barrels daily. In another part of the refinery yard and adjacent to three old Dubbs reaction chambers which will be put back into service as "pre-wash" tanks after many years of idleness, is a light oil treating plant using the new "copper sweetening method." And finally, over near the skimming plant are four more old Dubbs reaction chambers which have been utilized in the construction of a plant embodying a new method for removal of acids and salts from crude oil.

The new cracking unit was the major part of the construction program. It was completed around Aug. 15, about 100 days after contract was signed.

The furnaces probably are the most outstanding part of the unit as far as newness of design is concerned. A description of the type of furnace used was given by R. P. Mase of Burrell-Mase Co., at the plant operators' meeting at Wichita, Sept. 29.

One of the furnaces handles heavy oil, and the other light oil. The charging stock for the heavy oil furnace is an 18 gravity oil, made up of 24-25 gravity raw feed and a heavy recycled gas oil. Two parallel streams of oil enter the furnace coils through the top of the convection bank and pass out at the bottom of the furnace. The oil's inlet temperature is approximately 740 F., with a discharge temperature of approximately 925 F. To obtain this transfer temperature the top temperature in the furnace is held at approximately 1325° F.

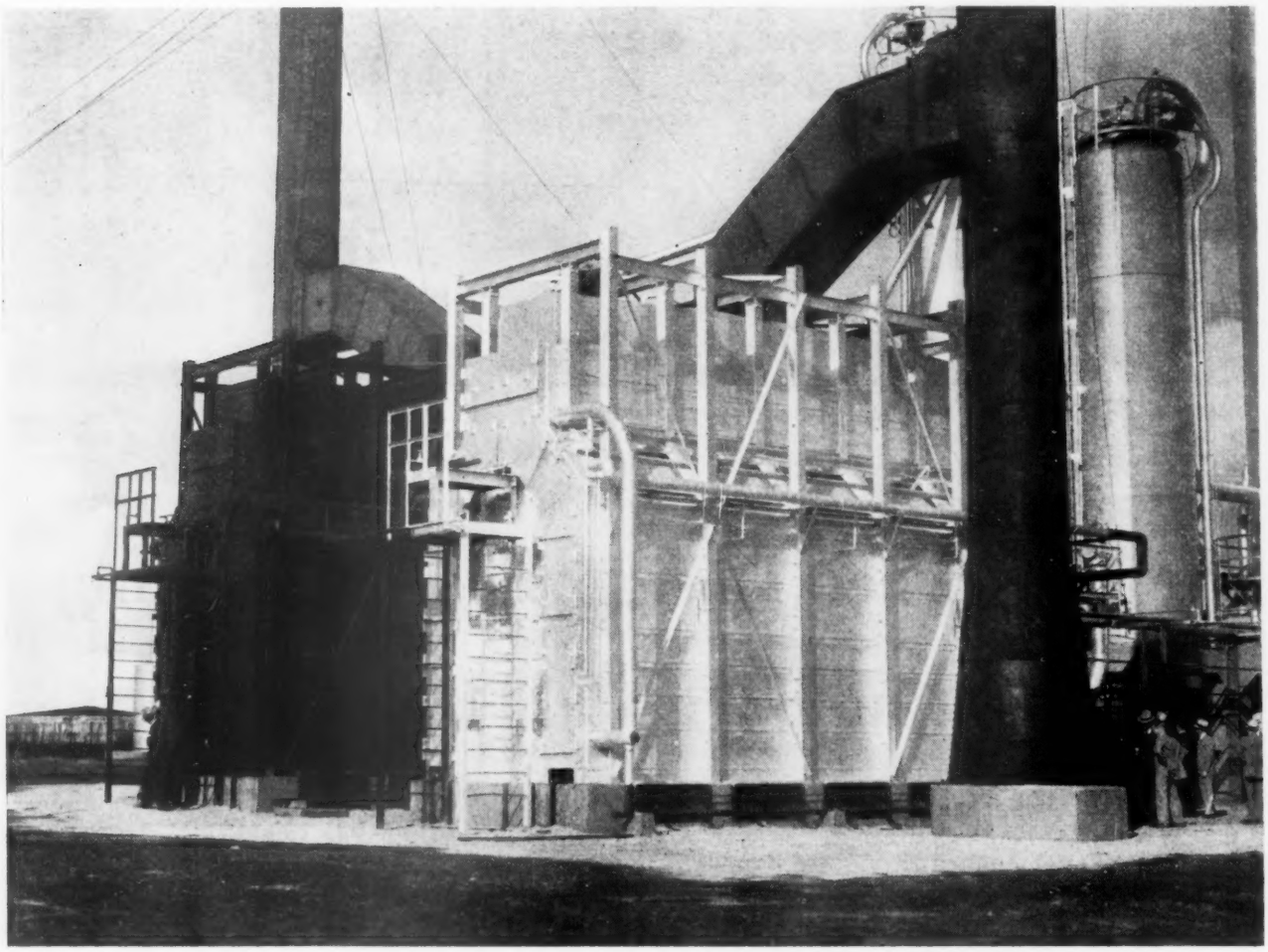
The tubes in the light oil furnace are arranged in series and so placed that the oil can be heated with a progressive heating curve or so that half the radiant tubes can be used as a soaking bank.

The charging stock for the light oil furnace is a 26 gravity gas oil from the cycle. The inlet temperature is approximately 625 F., with the transfer temperature being brought up to approximately 995 F. The top temperature in the furnace is approximately 1350 F.

The streams from both furnaces go to and through the reaction chamber at approximately 275 pounds pressure, and at a temperature of 950° F. The streams enter at the top and are discharged from the bottom of the cylindrical vessel. The pressure is then dropped to 80 pounds and the streams pass through the remainder of the system at substantially that pressure.

From the reaction chamber

The two furnaces are so new the painters had not yet finished their work when this picture was taken. The furnaces are of a new type, with flame and combustion gas flow entirely upward, first along both sides of a centrally located bridge wall and thence upward through the convection bank



the stream flows into the flash chamber. The gas oil and all lighter products pass out overhead as vapors from the flash chamber, while the heavy oil, a 6 gravity cracked fuel oil which constitutes one of the finished products, is drawn off at the base of the chamber.

The vapors from the top of the flash chamber pass into the fractionator. Here two steps in the process are done simultaneously. They are:

(1) Raw feed is introduced over a sieve plate section at the bottom which acts as a direct contact heat exchanger for heating the raw feed entering the plant.

(2) Separation of the vapors into four streams of products is accomplished. The heaviest product, the 18 gravity charging stock for the heavy oil furnace, is drawn off at the bottom. Midway of the fractionator, a side stream of 26 gravity gas oil is taken off, which is fed to the light oil furnace. Near the top a 45 gravity naphtha is taken off. This naphtha is, in fact, the heaviest one-third of the cracked gasoline. Over the top of the fractionator is drawn off the lightest two-thirds of the cracked gasoline, along with the fixed gases.

While the 18 gravity oil, and the 26 gravity oil are returned to the heavy oil and light oil furnaces, respectively, the naphtha is passed through the stripper and cooler and then becomes an absorption oil for the vapor recovery tower.

The light gasoline and the fixer gas taken off overhead from the fractionator pass through the main condenser and into the reflux tank; the reflux is then pumped back to the top bubble tray of the fractionator.

The naphtha stream, the light gasoline stream and the fixed gas from the reflux tank are all introduced into the stabilizer at appropriate points, and from the stabilizer are obtained two streams. One is a stabilized cracked gasoline of 61 gravity, 400 end point, 69 octane rating and 9 pound vapor pressure. This stream is taken off at the base of the tower, cooled and pumped to storage.

The fixed gas is taken off overhead from the stabilizer. This gas consists of all the propane and lighter gases and that portion of the butane which cannot be included in a 9-pound vapor pressure gasoline.

The cooling system for the unit also is of rather recent development in cracking plant design. It is of the type utilizing open spray sections very similar to those used for several years now in the natural gasoline industry. This cooling system also was described by Mase in his talk before the plant operators.

The treating plant being constructed to use the copper sweetening method was described in a general way and its operating routine explained rather fully by W. A. Schulze of the Phillips Petroleum Co., at the meeting of the plant operators. Mr. Schulze and L. S. Gregory, of the company bearing his name, had collaborated in the preparation of the paper which the former read.

It was pointed out by Mr. Schulze that the cost of a treating plant of this design may be cut down materially by the utilization of salvage materials at a refinery, and this is just what has been done at the Barnsdall plant. The three old Dubbs reaction chambers, for example, had not been sold for junk because no economical way had been found to break them up. Now they will be put back into use as the caustic wash tanks. Much of the pipe and fittings being used in the new plant has been salvaged from now obsolete equipment.

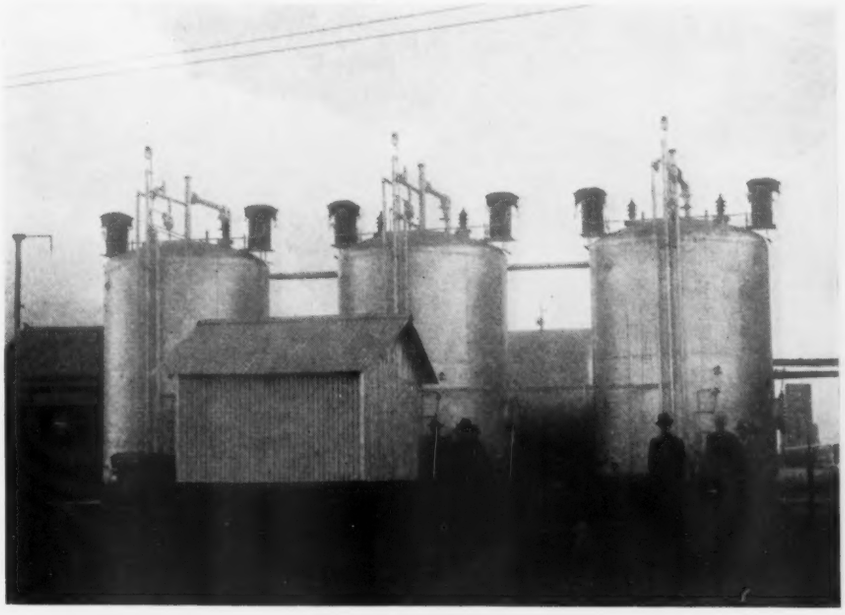
The method of treating crude oil, while used in the production division of the industry for many years, is only about a year old in its application to refinery operations. The unit at the Barnsdall plant consists of three tanks, old reaction chambers, in which the treating takes place, and one old chamber which has become a surge tank.

This particular method employs electrolysis to separate the acids and salts from the crude brought to the plant from the fields. In each of the treating tanks two large electrodes are suspended from the top, their lower ends being almost halfway down in the tank.

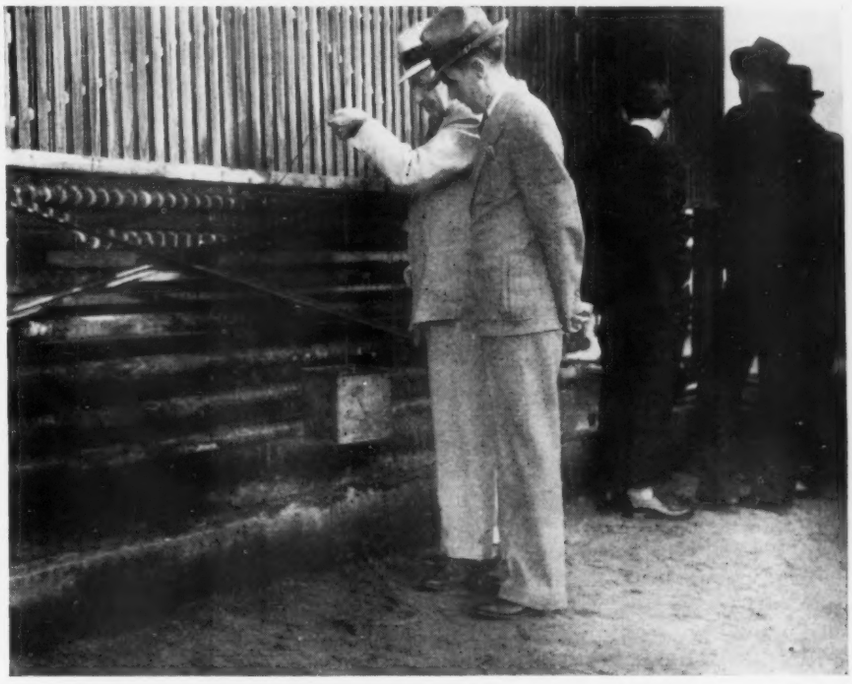
An emulsion is made of the crude oil and fresh water and this thick emulsion is passed through the electrical field between the two electrodes, where the separation occurs, the water carrying acids and salts being drawn off the bottom and the treated oil passing off overhead into the surge tank.

This treating method also was described to the plant operators by G. B. Hanson of the Petroleum Rectifying Corp., Houston, Tex., which firm has the contract for the installation at the Barnsdall refinery.

This battery of tanks comprises the new crude oil treating plant designed to remove acids and salts by electrolysis. Between the two transformers on top of each tank can be seen the two electrodes which extend down into the treating tanks. The little sheet iron building houses the control switches and the horizontal tank in the rear is the surge tank

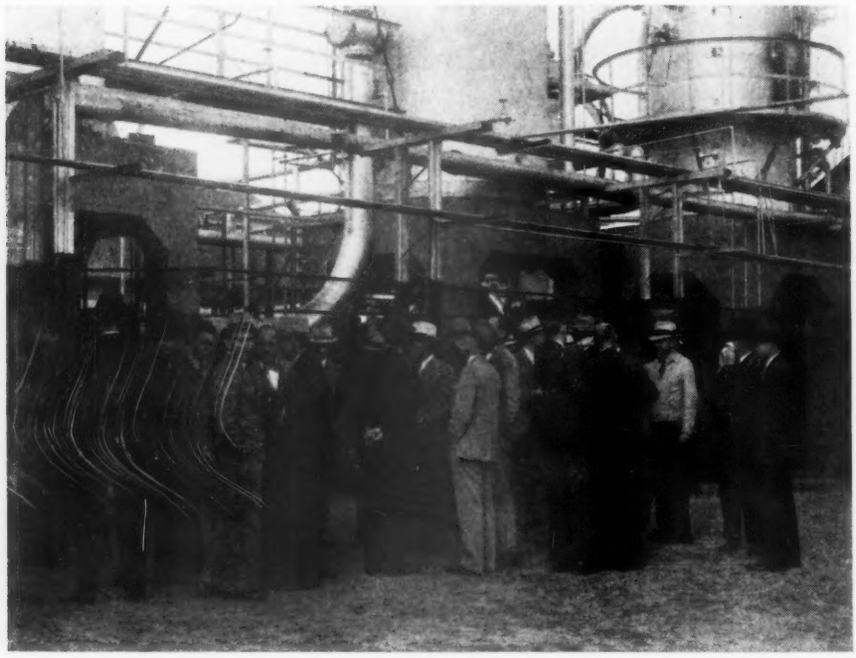


"Wet Battery" Principle Combats Scale



Several box like contrivances, made of copper, with no top or bottom, with one or two zinc bars in each, are suspended from wires and hang in the pit water of the open type cooling unit at the Barnsdall plant at Wichita. They are for the purpose of preventing scale and removing the scale already formed on the tubes carrying the various streams from the cracking plant. Joe Norris, of Oklahoma City, representative of the manufacturer, is shown in the photograph holding one of the boxes while explaining that the principle of the wet battery is used. The electrical energy created causes a chemical reaction which in turn causes scale forming properties in the water to be precipitated to the bottom of the pit or washed out by the waste water

Western Petroleum Refiners Association members inspecting the new units at Barnsdall's Wichita, Kans., refinery. Three comparatively new processes were discussed at the meeting, and here the group are seeing these in operation



Cracking Meet Studies Welding, Corrosion

NEW YORK—The eighth annual meeting of the Cracking Development Conference of the companies associated with Gasoline Products Co. was held here Sept. 22-24, according to announcement just released. This conference is held to correlate and co-ordinate the developments in cracking technology by the Standard Oil companies of Indiana and New Jersey, The Texas Co. and M. W. Kellogg Co. with Wm. F. Moore, president of Gasoline Products Co., as chairman.

These conferences study the recent developments in cracking methods, and this meeting gave attention especially to welding technique for large units, and to the newest methods for protecting against corrosion. The technologists looked over also some of the largest welded steel pressure vessels, being built by Kellogg for the Texas City plant of Pan American Petroleum & Transport Co.

Contract Let for Refinery

CLEVELAND, Oct. 3.—Contract for the construction of the new 8500-barrel crude topping-cracking unit for Chalmette Refining Co. of Louisiana, has been let to Arthur G. McKee & Co., of Cleveland. This unit will be under Gasoline Products Co. license, and engineering and design of the unit are in the hands of the M. W. Kellogg Co., New York.

The unit will be so designed as to permit the addition of reforming equipment in the future if desired. It is to cost in the neighborhood of $400,000.

Damage Suit Dismissed

DETROIT, Oct. 5.—Dismissal of the suit brought by Ruben Ravelle, of Toronto, against Pure Oil Co., and others, alleging fraud in handling the affairs of Gyro cracking process, was ordered Oct. 31 by Judge Tuttle, of the Federal District Court here. The court claimed lack of jurisdiction and that the complainant was not a stockholder at the time of the alleged acts complained of.

The suit charged fraud and conspiracy to defraud on the part of Pure Oil and eight other companies and included five individuals, officials of these companies. An unnamed stockholder attempted to intervene so as to continue the case, but the judge also ruled the court was without jurisdiction.

Road Asphalt Research Program is Planned

TULSA, Oct. 3. — Discussion of a program of laboratory and field research in asphaltic materials, under the guidance of the Highway Research Board, is expected to be a feature of the Fifth National Road Oil and Asphalt Congress in Tulsa, Oct. 8 and 9.

Such a program was advocated by the Congress in 1934 but lapsed because of lack of co-ordinated effort. It was advocated again this year and officially approved by the Second Montana Bituminous Conference in Glacier National Park, Sept. 8 to 10.

The program for the Congress in Tulsa, as announced by Emby Kaye, of Skelly Oil Co., general chairman, includes papers by engineers from highway departments of Arkansas, Kansas, Missouri and Montana; by an engineer from the Bureau of Public Roads, and one by a chemist from the petroleum industry as well as one by a chemist from the calcium chloride industry. The official program is:

Oct. 8

"Asphalt in the Paving Industry", by L. M. Law, Shell Petroleum Corp.

"Bituminous Mat Construction in Arkansas", by Fred Allison, Chief Chemist, Arkansas Highway Department.

"Developments of Bituminous Surfaces in Kansas", by L. L. Marsh, Assistant Maintenance Engineer, Kansas Highway Department.

"The Necessity for Asphalt Research", by Dr. Sidney Born, Tulsa University.

Oct. 9

"Calcium Chloride for Base Stabilization Before Bituminous Surfacing", by Brant Holme, Highway Engineer, Morton Salt Co.

"Soil Stabilization by Sub-Surface Oiling", by L. T. Schappler, Missouri Highway Department.

"Federal Financing of Highways", by Hon. Wilburn F. Cartwright, Oklahoma Representative in Congress.

"Some Problems of Bituminous Construction", by C. M. Gillette, Materials Engineer, U. S. Bureau of Public Roads, Fort Worth.

"Bituminous Practice in Montana and Report on Second Montana Bituminous Conference", by E. B. Donohue, Assistant State Engineer, Montana Highway Department.

Sound Engineering Features Modern Trend in Cracking Processes

By **R. P. MASE***

(Presented before Western Petroleum Refiners Association regional technical meeting, Wichita, Kans., Sept. 29)

• • •

CRACKING, has probably become the most important single operation in petroleum refining. Even a sketchy consideration of the subject is impossible in a paper of the size and scope of this one. It is therefore necessary to limit our field to the cracking practice best fitted to serve this particular locality. In attempting to do this, we would like to set forth a few general characteristics of this area which have a bearing on refining and more particularly on cracking.

In the first place, topped crude is the most commonly available charging stock. There are, of course, instances of gas oil cracking and also of reforming. Since time is limited, we shall deal primarily with cracking plant design for operation on topped crude, bearing in mind that a well designed cracking unit for this purpose can be applied to the handling of lighter stocks when such need arises.

In the second place, refinery locations in this area at times were chosen more with an eye to crude supply than to markets. Many refiners in these parts have developed a considerable local market which is served by tank truck delivery and several refiners have access to gasoline pipelines, but by and large, the average refiner must find a distant market served by tank car delivery. This fact makes it imperative that the quality of the gasoline produced be equal to or better than the competitive products available in these distant markets. There is always a considerable market for a lower grade product at a reduced price. But this is not good business for the refiner, since high quality products that will sell for top prices can be produced with modern equipment at a cost no greater than the present cost of the lower grade products.

Since, as above stated, the primary market of the average refiner of this area is rather distant from the point of manufacture, it is necessary that the cost of the product be kept low in order that these distant markets may be served at a profit. If the production cost can be lowered without sacrifice of quality, this advantage may be taken as an additional profit. But even more important is the fact that with a lower cost quality product, the marketing area can be increased from any given refinery location. In view of the present clash for marketing territory, this point is of major importance.

We dare not forget that a refinery is a commercial institution, and without profits it cannot exist. Neither can we overlook the fact that the first cost of a unit affects the operating cost since fixed charges are inescapable in setting up cost figures. And these fixed charges are substantially in direct ratio to the first cost of the unit. However, there is certainly no sound reason behind attempts to cut first cost of cracking plants by cheapening the construction. Keeping the first cost down can better be accomplished by simplification of detail and by use of newer types of equipment which are entirely satisfactory for the purpose but which cost less to fabricate or erect. In short, we believe it sound to place emphasis on better engineering rather than on cheap equipment in order to reduce plant costs.

In order to be specific, we shall discuss features of one particular type of cracking unit in its relation to the older types and shall also attempt to correlate trends in design with benefits to be derived from resultant changes.

The tube furnace or heater is rightfully considered the most important piece of equipment in a cracking unit. There is not time to attempt to trace the development of heaters. Suffice it to say that most of the early tube furnaces applied to the cracking art were of the convection type, wherein combustion was completed in one compartment, following which the combustion gases were led over a bridge wall and downward through a convection bank and thence to the stack. Then came radiant tube sections.

In the early furnaces and even today in many, the radiant tubes were or are disposed along the walls, roof or floor (or all three) of the compartment which in convection furnaces was used for combustion only. Gas flow is still downward through the convection tube bank. This was a natural development for the time, since many furnaces were originally built for convection banks only, and later, radiant tubes were added, these being placed near the walls and roof of the combustion chamber. But certain disadvantages are inherent in this type of furnace. Principally, they are:

First, the normal flow of flame and combustion gas is horizontal, then vertical, then horizontal again, and finally downward. Such a flow is not

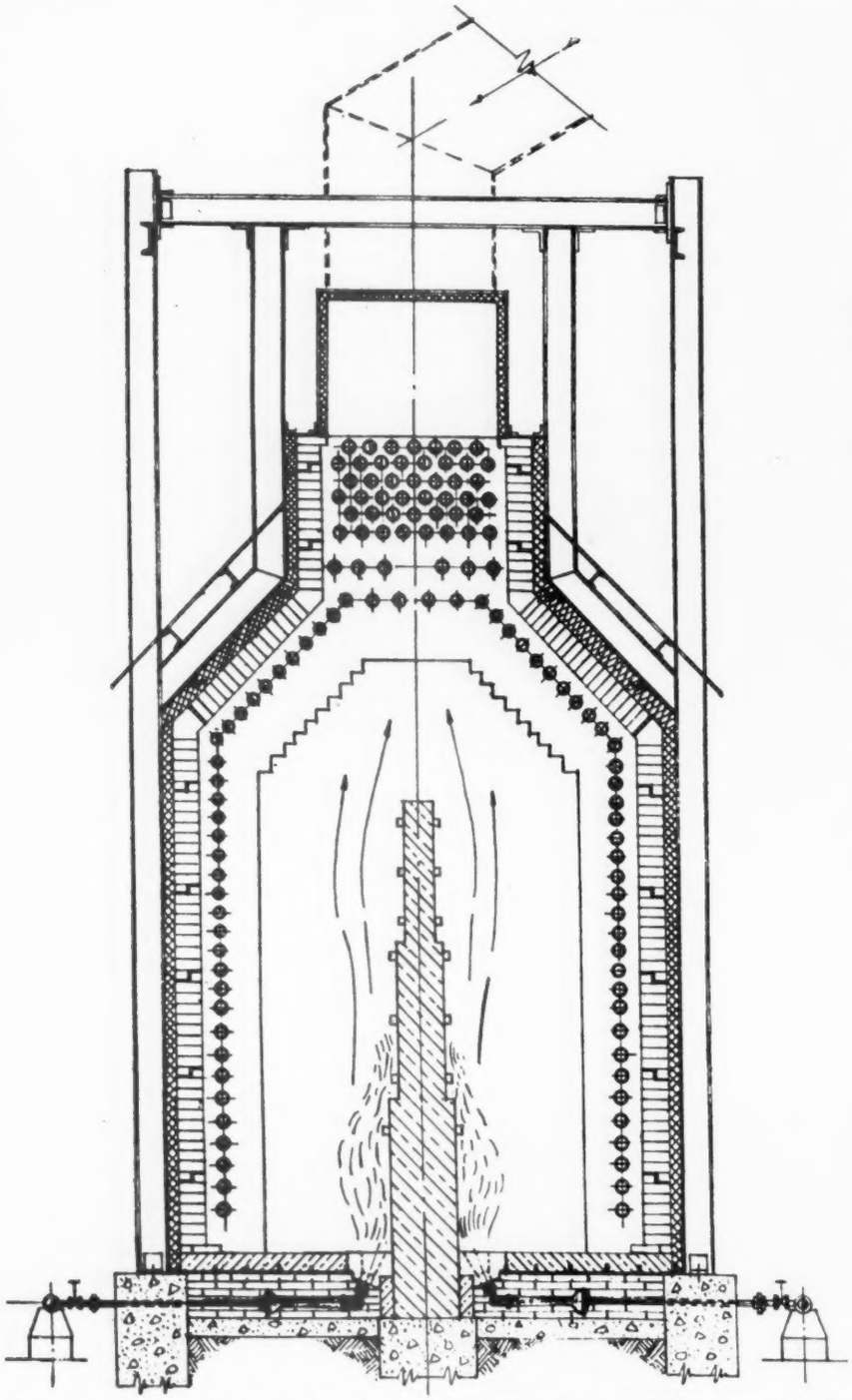
*Burrel-Mase Engineering Co., Pittsburgh.

easily directed. There results flame impingement and hot spots, with consequent coking troubles and oxidation of tubes.

Second, cold spots are present, especially in or near corners of the rectangular combustion chamber, resulting in loss of effectiveness as a heater and in extreme cases, the deposition of coke due to cooling of oil on the way through the furnace.

Third, because of flame impingement troubles, the combustion chamber is of necessity made large. The resultant heater is expensive to build.

In the meantime, at least one company interested in cracking plant development, built experimental heaters from which were obtained results both surprising and gratifying. These experimental heaters proved beyond any reasonable doubt that much higher heat input to radiant tubes could be satisfactorily achieved if flame and gas travel were better controlled and also, if walls, flame, and tubes were more favorably disposed one to the other. Out of this experimental work, plus a lot of field experience, grew a furnace of a new type.



End elevation of double-upshot furnace installed in Barnsdall's new cracking unit at Wichita

IN this furnace, the flame and combustion gas flow are entirely upward, first along both sides of a centrally located bridge wall and thence upward through the convection bank. Radiant tubes are arranged along the side walls, opposite the flame and bridge wall, the latter acting as radiator. Tubes also bridge over the top of the combustion space. The convection bank continues upward. Stack gases are collected by a breeching and led to a conventional stack. As will be noted, the travel of flame and resultant combustion gases, is substantially in a straight line upward.

This arrangement avoids hot spots, cold spots and flame impingement and makes possible high heat input to the tubes without operating difficulties. And perhaps surprisingly enough, it is distinctly a low cost heater.

Two rows of burners are present, one alongside each side of the bridge wall. When desired, the coil can be arranged so that a controlled heating curve can be had, since the furnace is effectively divided into two separate combustion chambers, each with its own set of burners and radiant tubes.

A controlled heating curve is particularly desirable when cracking gas oil or lighter materials, as for instance, in the light oil furnace operation of a two coil unit. On the other hand, the up shot furnace design also permits arranging the tubes in two parallel coils. This is especially desirable when cracking heavy oil, since it effectively reduces the time of passage of oil through the coils.

Two-coil cracking has just been mentioned. Of course, any reasonable number of coils can be used but we have in mind a unit of moderate cost. In two-coil operation, the feed to the furnaces is fractionated into a gas oil of about 26 gravity and a heavier oil of say 20 gravity. Each is subjected to the most favorable temperature pressure conditions for the particular type of stock. This results in a distinct improvement in octane number of the gasoline. As a

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6 Wire nipple binding placed over maximum number of plies to give greatest end-pull resistance.

7 Breaker fabric securely binding cover to carcass.

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9 Fabric end-protection plies.

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sample, one two-coil unit is producing from Kansas top-bed crude a 400 endpoint gasoline of 69 octane. Another 68 to 69 octane. Operators of very large cracking units can profitably consider three-coil or even four-coil installations but the two-coil unit is ideal for moderate sized refineries. Multicoil cracking may be considered one of the distinct trends at this time, largely because of the higher octane gasoline produced thereby.

ANOTHER distinct trend that has been under way for several years and is still gaining favor, is the full cracking of the raw feed by putting it in its entirety through the furnace. In the earlier days of cracking means of preventing coking difficulties were not as well worked out as at present. Hence there was the tendency among operators to go the easier way and discard the heavier portion of the raw feed without putting it through the furnace coil. This was conducive to prevention of coking troubles with their consequent forced shut downs. But the penalty was and still is heavy.

In the first place, the fuel oil or residuum thus produced is a high viscosity, high cold test product which in many instances is not readily marketable. Viscosity breakers have in many instances been installed to overcome the difficulty but this is expensive and complicates the plant unnecessarily.

In the second place, yields of gasoline are distinctly lower when the whole oil is not cracked. Estimates on this point vary but our observation is that plants that do not put the whole oil through the coil, yield five to ten per cent less gasoline of a given endpoint. This percentage is based on net throughput of the unit.

In view of the foregoing, it is obvious that the difference in results obtained by not cracking or by cracking the whole raw feed are very considerable. In the meantime, knowledge of controlling coke formation has been developed so that today a multitude of cracking units are showing the better results of total cracking and are at the same time giving very satisfactory length of runs.

Another tendency in cracking operation is toward the use of a reaction chamber, rather than a soaking bank. This is in a sense a corollary of heavy oil cracking. Now of course, reaction chambers are as old in use as cracking plants, but we have in mind a later form as applied to recent units.

A soaking bank works rather satisfactorily with certain gas oils and lighter charging stocks. But its use becomes almost impossible when heavy oils are cracked, because of coking difficulties in the tubes. In our opinion, the best present day practice for heavy oil cracking, consists of very high velocity short time factor treatment in the heavy oil coil. Following this the total products therefrom (without reduction of pressure or temperature other than normal losses) are led immediately to a reaction chamber so disposed that liquid products are quickly discharged while vapor products are held for a longer time. The combined effects of these methods are:

First, the short time element and high velocity in furnace coil by maintaining an intimate mixture within the tubes, prevents coke formation or overcracking.

Second, heavy oils are quickly ejected from the reaction chamber, thus preventing overcracking of these less refractory hydrocarbons.

Third, the lighter hydrocarbons are retained for a predetermined time period, during which time, cracking continues. This time period can be adjusted to the needs of a particular stock by adjusting the pressure on the chamber. In a very real sense, a reaction chamber of this type becomes an aid to selective cracking.

Another tendency in present day cracking is toward intermediate pressures in the main fractionating column. There is not time to discuss properly the function of fractionation in a cracking plant. But such a discussion is rather unnecessary anyway, since nearly everyone involved in the operation of refinery units has a pretty fair knowledge of their function.

Fractionators (ofttimes referred to merely as bubble towers) in various units that have come to our notice, have been operated in some instances as low as 20 pounds gauge pressure and in others as high as 300 pounds. In our opinion, best practice lays between 70 lbs. on the low edge and 120 lbs. as the upper limit.

There is considerable difference in charging stocks, and other conditions enter in, so that there will probably always be some divergence on this point. But with pressures distinctly below the above range, the size of the fractionator, flash chamber and condensers all become rather large and therefore expensive. But more serious is the fact that loss of light products is much more serious at lower condenser and fractionating pressures.

Of course, practically all cracking plants are now equipped with vapor recovery units. Even so, this latter part of the plant is of necessity more elaborate and expensive when the cracking plant fractionator is operated at decidedly low pressures. Low fractionator pressures also increase circulating pump loads by lowering pump suction pressure, and increase furnace load by decreasing oil temperature to the furnace.

ON THE other hand, too high fractionator pressures quickly lead into trouble. First, because higher pressures automatically carry with them higher temperatures. The latter ultimately reach a point where coking occurs in the fractionating system, particularly in the flash chamber (or evaporator).

Second, as above mentioned, temperatures increase in the vessels involved as pressures are increased, but not rapidly enough to overcome the tendency for gasoline to remain in the feed to the furnace or furnaces. This latter results in reduced plant capacity on one hand and low gasoline yields and high losses on the other.

Third, for the same reason, the flash point of the residuum may be too low if too much pressure is carried on the fractionating equipment.

In this connection we mention

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briefly a practice that is favored by many. The residuum is flashed in a secondary chamber and reduced to a low gravity and high viscosity. Resulting gas oil from this flash is returned to the cracking cycle. The low gravity residuum is cut back to marketable specification by light oil from the cycle. An increase in gasoline yield results. It may be questioned whether this increase justifies the cost and complication in the case of very small units. Larger units can profitably follow this scheme.

PUMPING units for furnace oil circulation are of prime importance. Several well established types and makes are available but it is not within the scope of this discussion to cover this matter. However, we should like to mention briefly the prime movers for these units.

Originally, hot oil circulating pumps were direct driven steam pumps, either duplex or simplex. Then followed cross compound duplex pumps. Later came crank and flywheel steam driven pumps, quite often with vacuum condensers. This latter type of pumping unit is still quite commonly used. Steam turbine or electric motor driven centrifugal pumps, Gas engine driven and Diesel driven power pumps complete the list.

So many considerations enter into choice of pump drive that it is impossible to generalize too much. We may say, however, that for this area, steam is coming into some disfavor. The first cost of a steam driven unit is always high if boilers are taken into account. Aside from this is the fact that water conditions are generally bad and boiler maintenance is no small problem.

Electric drive is expensive in operation, especially when current is purchased from the outside. Gas engine drive is moderate in first cost, low in operating cost, but lacks just a little in reliability, because refinery gas presents difficulty making it advisable to purchase gas from the outside, which in turn makes the unit liable to trouble from outside fuel difficulties. However, if a thoroughly reliable source of natural gas is available, gas engine drive is satisfactory.

In our opinion, Diesel drive is about the most satisfactory for general use. It is moderately expensive, but very reliable, very moderate in operating cost and is operated on fuel produced by the cracking plant itself. Therefore, it is not subject to outside fuel difficulties.

For purposes of fuel cost comparisons, let us assume 150 Hydraulic H. P. load to drive hot oil pumps of a moderate sized cracking plant:

First, assume an electric driven power pump with current at ⅞c per K. W. hour. This computes to $1.25 per hour or $900.00 per month.

Second, assume a crank and flywheel unit with condenser, having a steam duty of 20 lbs. Assume firing boilers with 1000 Btu. gas valued at 10c per thousand, or fuel oil at 60c per barrel, and charging for the fuel only. This computes to 58c per hr. or $417.00 per month. This includes no charge for boiler maintenance.

Direct driven steam pumps will cost from three to five times the above.

Third, assume Diesel Drive using gas oil at 3c per gal. This computes to 34c per hr. or $245.00 per month.

Fourth, assume Gas Engine drive using 1000 Btu. gas and 13 ft. per H. P. hour. This computes to 24c per hr. or $168.00 per month.

The above figures may vary depending on constants chosen, but the comparison is fair.

One of the more recent improvements in cracking plant design has been the change to open type condensing and cooling units. By open type, we mean tubular sections of the type which are set above a pit and over which cooling water is sprayed or otherwise distributed. Submerged sections set in a box, although much used, are not entirely satisfactory because even when fairly new and clean, the transfer rate is low. Worse, however, is the fact that scale and dirt collect rapidly, thus rendering the unit ineffective. Because of being installed in a box, cleaning the tubes is difficult and such cleaning can only be done while the unit is shut down and the boxes drained. The net result is that they are seldom cleaned and the streams are often warm or hot. Open sections operate at a much higher transfer rate. Less surface is required and the first cost of the plant is lowered appreciably. Equally important is the fact that the scale can be removed much more easily, thus minimizing warm stream difficulty and loss.

While open spray sections have been in wide use for several years in the natural gasoline industry, nevertheless the refining industry has been slow to adopt them. Part of this is natural resistance to change. But more of it is the feeling that in case of a water supply failure, the water in the box around the submerged coils will serve to prevent a serious situation arising due to escape of uncondensed vapors. This matter, however, can be handled by a water reservoir back of the spray system, or by tying in city water where same is available, or by duplicate water pumping equipment. Many open type coolers and condensers are in successful refinery operation and their use is coming into favor.

VAPOR recovery and stabilization is no small part of a cracking unit. A few years ago, cracking plants were built without including such equipment. The result was a severe loss of the best gasoline hydrocarbons, amounting to as much as ten per cent of all the gasoline produced by the cracking plant. Several points of octane rating were lost as a consequence. At the same time, the gasoline was not properly stabilized, that is, it still contained propane in solution.

During this period, vapor recovery plants as separate units were widely installed and in most cases were quite satisfactory and proved to be excellent investments. These earlier plants were for the most part an adaptation of natural gasoline oil absorption plant designs. A number of compression and direct fractionating units were also installed. These were a descendant of the

German Blau Gas Patent stabilizer.

More recently, however, cracking plant and vapor recovery plant engineers have gotten closer together with the result that both cracking plant and vapor recovery plant have been modified so that the two can be more conveniently tied together. This results in a much simpler, lower cost and more satisfactory combined unit than was heretofore possible. At present, almost all cracking units are designed and built with vapor recovery and stabilization equipment included.

In these later recovery units, heat for stabilization is taken from the cracking cycle by circulating hot oil through the reboiler or reboilers. Absorption is practiced in order to prevent loss of pentane and heavier with cracked gas. Absorption menstruum in one form of unit is a naphtha which in reality is the heaviest third of the cracked gasoline itself. In another type of unit, absorption menstruum may be either gas oil from the cycle, or cold raw feed. Stabilization is properly performed so that finisned product is commonly propane free, and with butane content so controlled that the cracked gasoline leaves the unit at required vapor pressure for shipment.

In the average refinery there is produced by cracking, more butane than can be retained in the finished cracked gasoline. But in the average sized refinery, this excess butane is not available in sufficient quantity to justify marketing it separately or using it for gas cracking or reforming. However, generally speaking, a good deal of this butane can be added to the straight run gasoline.

In certain areas and particularly in Kansas, this method of butane conservation has not been feasible because of color instability when a small volume of cracked gasoline and a larger volume of straight run gasoline are blended. At the present time there is at least one treating process coming to the fore, by use of which this difficulty is apparently overcome.

Blending excess light cracked hydrocarbons into straight run gasoline as a means of increasing cracking plant yields, has been practiced in several Mid-Continent refineries for several years. But none of them are in this district for reasons above stated. One Kansas refiner is equipped to do so, as soon as treating difficulties are overcome.

AT THIS time, polymerization of unsaturated compounds (principally olefins) present in cracking still gas bids fair to become the next important development in the cracking art. One or two processes are now available to large refiners but it can scarcely be said that the art has been perfected to the point where a moderate sized unit can be profitably operated. We believe that within the next year or two, details of processing will be improved to the point where smaller refineries will find it profitable to polymerize their gas.

The value of polymerization lies in part in the fact that additional gasoline is produced from gas that is now used as fuel, but the larger value of the process lies in the fact that the gasoline so produced has an extremely high octane rating and an even higher blending power, so that a small amount of gasoline so produced can be used to raise the octane number of all the cracked gasoline. Polymerization practice is developing along two principal lines. One process utilizes a catalyst and operates at relatively low pressures and temperatures. Other processes use very much higher pressure and temperature, but no catalyst.

In the design of cracking units to meet present day requirements, one principal requirement not heretofore mentioned, is flexibility in operation.

Flexibility in a cracking plant can probably best be achieved, not by adding gadgets Christmas tree fashion, but rather by sound processing and by equipment capable of overload in regard to capacity, pressure and temperature, so that operating conditions can be varied to meet changing requirements.

In brief summary, we would say:

That topped crude is the most common charging stock for cracking plants in the Mid-Continent area.

That putting the whole charging stock through the furnace coil is being practiced increasingly, because higher yields of cracked gasoline result. Also a better fuel oil.

Two coil operation is a desirable development since higher octane gasoline results.

Lower first cost of units is being achieved, not by cheapening construction but by simplification and improved design.

Important developments in tube furnaces have been achieved.

A later form of reaction chamber is giving improved results.

Fractionation is being carried out at more favorable pressures.

Controlled heating curve for light oil coil and high velocity low time exposure of heavy oil in furnace give better results.

Open type condensers and coolers are being successfully used.

Vapor recovery and stabilization equipment has been simplified and effectively combined with cracking units.

Polymerization is probably the next logical development.

Chemists Honor Midgley

CLEVELAND — Thomas Midgley, Jr., vice president of the Ethyl Gasoline Corp., and of Kinetic Chemicals, Inc., Detroit, is winner of the William H. Perkin Medal for 1937 "for distinguished work in applied chemistry, including the development of antiknock motor fuels and safe refrigerants." The announcement is made by the American Chemical Society.

Mr. Midgley won fame as the discoverer of anti-knock compounds for use in gasoline, including tetraethyl lead, and the application of certain nontoxic organic fluorides to refrigeration, which form the basis of a great portion of the air conditioning industry.

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Solution and Gasoline Losses Low In Copper Sweetening Process

By **W. A. SCHULZE*** *and* **L. S. GREGORY***

Presented before technical meeting Western Petroleum Refiners Association, Wichita, Kans., Sept. 28 under the title "The Copper Sweetening Methods."

• • •

ALTHOUGH the term "sweetening" was thought of by refiners for many years as practically synonymous with "doctor treating" in some one of its many modifications, times have now changed and a greatly improved method of sweetening has come to the forefront. This new method to which we refer and which is gaining such wide recognition and acceptance among refiners and natural gasoline men is commonly referred to as "copper sweetening."

Some years ago during the course of extensive desulfurization experiments on mercaptan-bearing naphthas it was observed that certain solutions of copper salts, instead of behaving in the manner expected, invariably oxidized all of the mercaptans to disulfides. This was not in accord with the generally accepted opinion that in the reaction of mercaptans with copper salts one-half of the mercaptans will be oxidized to disulfides and the other half will be converted to oil soluble cuprous mercaptides. Further investigation showed that whereas most copper solutions performed in the well known manner, it was possible to prepare certain solutions which almost instantaneously converted the cuprous mercaptides to disulfides. This was the beginning of the so-called "copper sweetening" process.

The mechanism of the reaction of mercaptans with copper sweetening solution is essentially the oxidation of the mercaptans to the corresponding disulfides and the reduction of the cupric ion to the cuprous state. Cuprous chloride formed in the reaction, although practically insoluble in water, is quite soluble in solutions containing a high concentration of chloride salts. The hydrochloric acid is retained also by solution. These two factors are highly essential to the process since in the next step the cuprous chloride and the hydrochloric acid are reconverted to cupric chloride by oxidation with air. From the equations it can be seen that no chemicals, other than oxygen, which in practice is obtained from compressed air, are used up in the process.

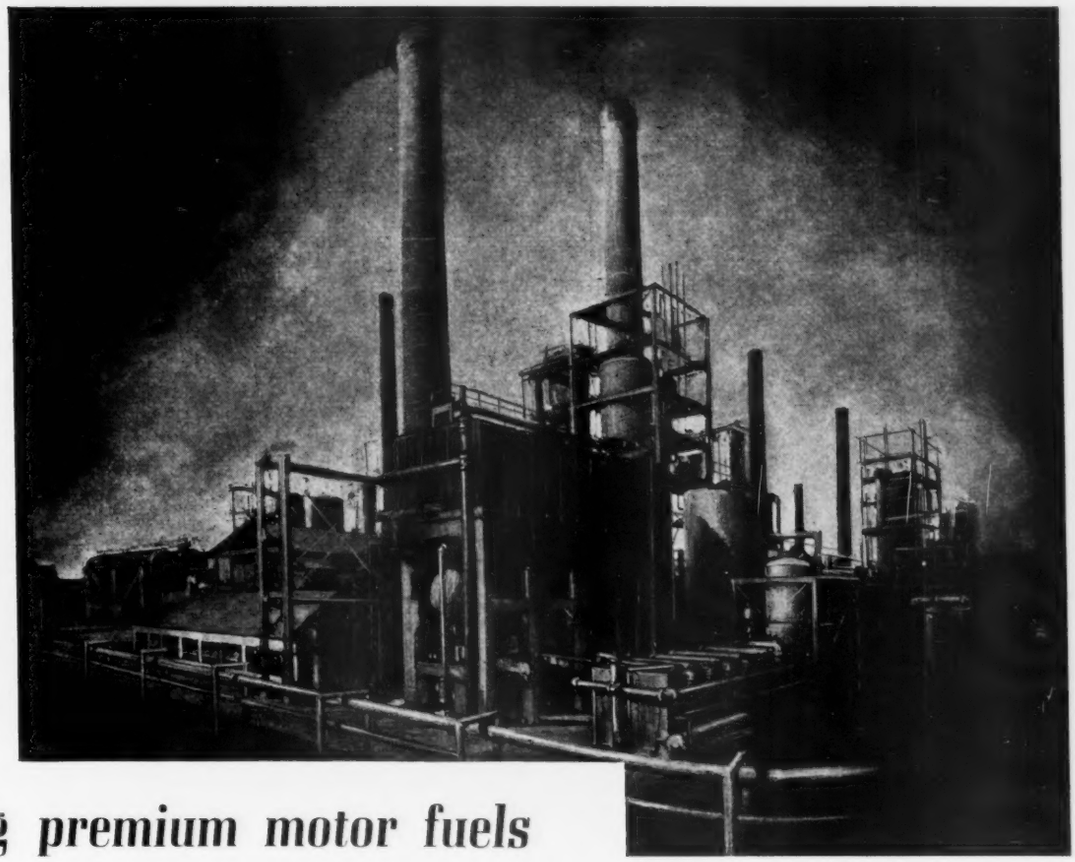
The regeneration of the solution proceeds rapidly, as might be expected for such cuprous solutions. Since the amount of air needed is small, the regeneration of the solution may be accomplished simultaneously with the sweetening operation, in a single step, if desired, by dissolving the air in the gasoline prior to treatment.

In the study of the various copper solutions it was found that only those solutions containing relatively high concentrations of chloride or bromide reacted in the manner described above. Furthermore, it was found that the concentration of cupric copper was relatively unimportant and that rather low concentrations were adequate. Thus, it became possible in the commercial application of this sweetening reaction to use a solution prepared from the very cheap chemicals, copper sulfate and sodium chloride. In this manner the high concentration of chloride needed in the treating solution is obtained from the ordinary grades of common salt.

Considerable effort was directed to determining the most active and desirable solutions for treatment of the various types of gasolines with the result that it became possible to measure quantitatively the sweetening power, or, more exactly the oxidation potential, of various copper solutions under conditions approximating those encountered in commercial operation. The method consists in measuring the potential developed between a polished platinum or gold electrode in contact with the copper solution and a saturated calomel half-cell. This tool has shown itself useful in quantitatively determining the effect upon the oxidation potential of temperature changes, concentration changes, spending, and of various impurities which conceivably might appear in the copper solution. This electrode system also serves as an excellent indicator in the titration of cuprous copper in the solution.

In the early work with the copper sweetening process it was noted that certain cracked gasolines following treatment with copper reagents exhibited a progressive tendency to discolor. It was assumed that faint traces of copper compounds such as naphthenates and the like served as the oxidation catalysts. Subsequent research produced a stabilizing treatment which if administered to such cracked gasolines immediately following sweetening entirely prevents any color instability or other deterioration of the product. This stabilizing treatment consists in contacting the gasoline with an alkaline sodium sulfide solution, a waste product at most

*Petroleum Engineering Research Co.



Producing premium motor fuels from low value by-product gases

● The refiner's profit in manufacturing premium motor fuels is directly influenced by the availability of high octane blending value stocks. When such stocks can be produced from by-product gases of refinery or natural gasoline plant, important economic advantages are assured.

THERMAL POLYMERIZATION

converts both saturated and unsaturated gaseous hydrocarbons to premium grade motor fuel.

● Commercial plants now producing motor fuel of high octane blending value from a wide range of charging stocks are daily proving the advantages of the Thermal Polymerization Process.

● The facilities of this organization and its agent, The M. W. Kellogg Company are available to refiners for analysis and solution of their plant gas problems.

Licenses granted under United States and Foreign Patents by
The Polymerization Process Corporation.

THE POLYMERIZATION PROCESS CORPORATION

15 EXCHANGE PLACE • JERSEY CITY, N. J.

A Preview of the Editorial Annual Engineering Number

POLYMERIZATION

What economic effects may be expected from Polymerization? Will it reduce over-all refining costs? Will it affect the octane number of automobile gasoline materially or soon? Will aviation gasolines be chiefly affected?

These and other questions dealing with the present state of the technique of Polymerization will be discussed by N. P. N. Technical Editor, Arch L. Foster.

THERMAL POLYMERIZATION

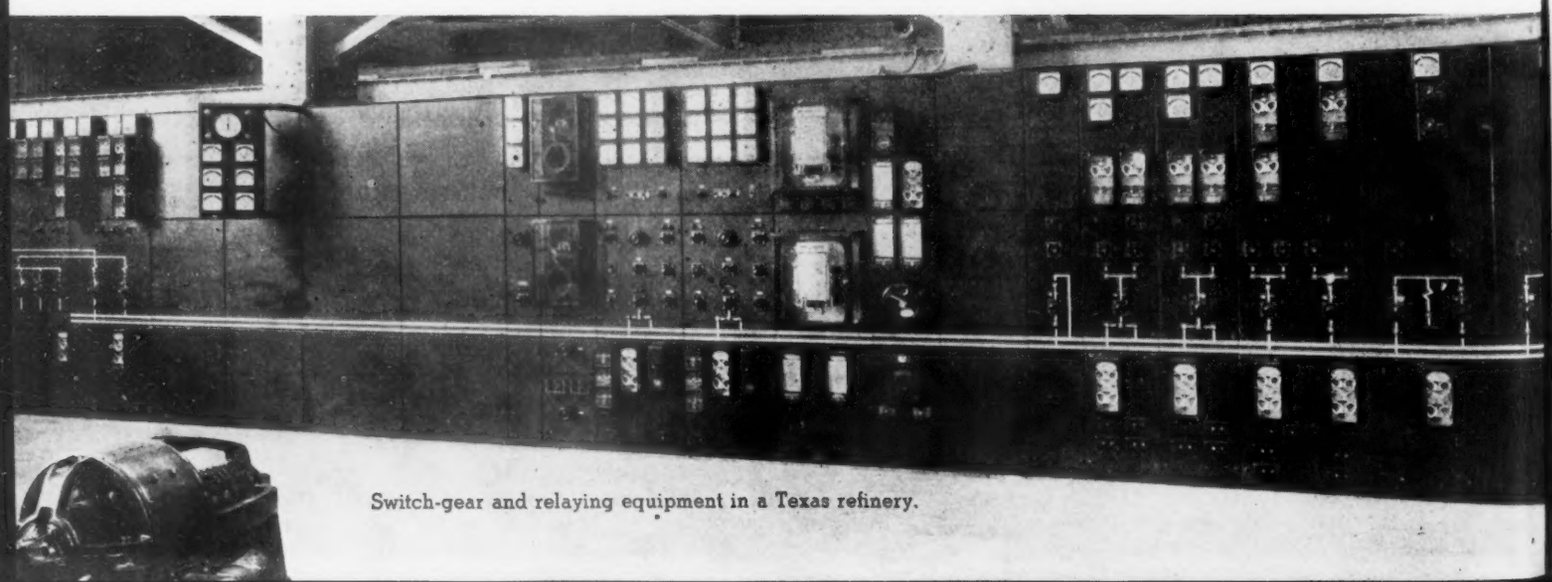
Several units of this type of polymerization process have been built. Research and development has gone forward rapidly. Engineers intimately connected with this development are preparing this article which should answer many questions now in the minds of refiners.

CATALYTIC POLYMERIZATION

Commercial operation of a half dozen new units of this process has disclosed important factors, among them increased yield and improved quality at lower costs. These results will be summarized in a special article by competent engineers who are working directly with the process.

GYRO POLYMERIZATION PROCESS

A re-vamped plant of the Gyro Polymerization process has more than doubled former yields during the past year. Octane rating of the product has been increased and costs have been cut. An authoritative article will describe what has been done.



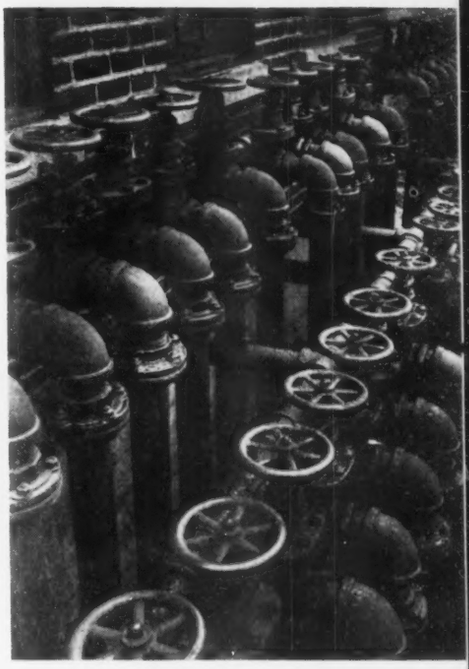
Switch-gear and relaying equipment in a Texas refinery.

Content of the November 4 of NATIONAL PETROLEUM NEWS

SCALE REMOVAL A new system for scale removal from boilers, heat exchangers, condensers and other refinery equipment which costs only a fraction of previous methods will be described.

SOLVENT REFINING Research into solvent refining methods, equipment and chemicals has been going forward at Pennsylvania State College. Refinery operators, technical executives, and marketing staffs will be interested in the article from a member of its research group discussing the relative effect of different solvents on lubricating oil fractions.

A second article by the technical staff of N. P. N. will summarize commercial development of solvent extraction during the past year.



Just a few of the valves used in a refinery.

FILTERS A radically new type of continuous filter for contact filtration and decolorizing of lubricant fractions will be discussed in a special article on this subject.

PUMPS All types of pumps used in severe refinery service have shown marked improvement. Problems of warpage, unequal expansion, erosion, charge rate flexibility will be discussed by a member of the N.P.N. technical staff in an article on which much work has already been done on collecting data from pump manufacturers, refinery engineers and other sources.

HIGH TEMPERATURE ALLOYS A brief handbook for the refinery engineer, this article by a leading metallurgist will tell of the use now being made of low chrome alloys for severe refining conditions to minimize or prevent erosion and corrosion, to reduce replacement costs and down time for repairs.

LOW TEMPERATURE ALLOYS Low temperature dewaxing of lubricants such as with propane requires special metals. Hitherto unpublished data on this subject by an engineer largely responsible for research work along this line will be of value to refinery superintendents, executives, process supervisors and maintenance engineers.

refineries. Analytical methods for detecting traces of copper compounds and of determining "potential stability" have been developed and complete assurance may be had as to the quality of the treated product. Thus, it has been found possible to apply the copper sweetening process to the most unstable cracked gasolines as well as to the others, with results considerably better in most instances than those obtained by the plumbite treatment of such products.

In the past refiners have been troubled more or less with elementary sulfur in some of their sour products, especially the vapor recovery gasoline. When sweetening with plumbite solutions this sulfur, if not present to too great an extent, merely takes the place of a part of the sulfur added in the usual doctor treatment, and in this way the products are made to pass the corrosion test. This, of course, has been a constant source of annoyance and has required much additional checking of the gasolines. Now in copper sweetening free sulfur is not used in the process, so such corrosive sulfur as is present in the sour gasoline must be removed either prior to or subsequent to the sweetening step. In this connection an auxiliary step is to contact the gasoline at normal temperatures with aqueous solutions of alkaline polysulfides, the free sulfur being easily removed. Such solutions are readily available and very inexpensive. Hydrogen sulfide, if present in the gasoline, may be removed along with the elementary sulfur in a single step. Operation of a number of such units over a long period has shown that there is no longer a "bugaboo" attached to the removal of elementary sulfur from gasoline. Thus, the presence of elementary sulfur does not handicap copper sweetening in any manner.

The copper sweetening process outlined above involves the use of an aqueous solution at normal atmospheric temperatures. The sour gasoline, free of hydrogen sulfide, is contacted and sweetened with the treating solution in a continuous manner, and the treating solution either simultaneously or subsequently regenerated by means of air. Operating in this manner the solution lasts indefinitely; in the oldest commercial unit the solution has not been dumped during more than four years of operation. Therefore, it is evident that no permanent spending of the solution takes place.

Several modifications of the original process have been devised to meet the conditions encountered in the treatment of the various types of gasoline. One of the most important is the development of a "solid" treating process especially adapted to natural gasoline and to refinery straight run and vapor recovery gasolines. The reagent is prepared by impregnation of adsorbents such as fuller's earth and the like with the copper solutions. The sour gasoline is contacted with the reagent by filtration. The filter bed is formed by supporting the reagent on a layer of mineral wool inside a steel filter tank protected from corrosion by a coat of resinous varnish. Where the solid reagent is used it is continuously regenerated in place by dissolving a pre-determined amount of air in the sour gasoline before it enters the filter. The gasoline is sweetened so quickly that almost unbelievable flow rates are possible. These units, therefore, are quite small as compared with the conventional sweetening plants.

THE advantages of the copper sweetening processes over the older methods are almost too numerous to mention. Treatment with plumbite solution in any form has always been cumbersome and unsatisfactory, due to the round-about method of oxidizing mercaptans to disulfides. The amount of sulfur to be added to the gasoline has to be redetermined from batch to batch and from day to day. Frequently there is much difficulty in getting the "doctor" properly broken out, with the result that excess sulfur is added and the gasoline then becomes corrosive to the copper strip test. Even under the best conditions there must be a slight excess of sulfur present and such sulfur is known to cause deterioration in certain other properties of the fuel. Still further, there is the considerable nuisance of the solid lead sulfide with which to contend. It is well known that emulsion troubles present themselves when solids are present in treating solutions which are contacted with oils, and doctor treating is no exception to the rule. Furthermore, the separation of the treated gasoline from the doctor sludge always has entailed losses of considerable magnitude. None of these difficulties or losses is experienced with the continuous method of sweetening by means of a copper solution always free of solids, forming no emulsions and which almost instantly converts the sour gasoline to a sweet product.

Commercial Installations

The first commercial copper sweetening plant has been in operation since early in 1931. This unit employing the solution method has treated from 5000 to 10,000 barrels daily of refinery straight run gasoline throughout this period of more than five years. At the beginning the mercaptan sulfur content of the gasoline frequently was higher than 0.05 per cent and averaged 0.03 per cent, yet no difficulty was experienced in obtaining a completely sweetened and stable product. The mercaptan sulfur content has been much lower, of course, since desulfurization of the gasoline for the purpose of lowering the tetraethyl lead requirement was begun. The operation of this plant has been completely satisfactory with both the high mercaptan and low mercaptan gasolines.

Very substantial savings have resulted from the application of copper sweetening to this straight run gasoline. The chemical cost was reduced immediately by well over 90 per cent and the operating costs were also materially lowered. Losses in gasoline were eliminated and the quality of the product was improved.

More than 20 copper treating installations have been made within the last two years. All of the units are highly satisfactory. A vast amount of data on chemical costs, operation, etc., have been secured from

these plants but obviously cannot be given in detail in this paper. We feel that each installation should be considered separately since many of the factors are primarily dependent on local conditions. As one example, however, attention is directed to a small plant recently installed. This plant is operated by an independent company and because of its size is handicapped in some respects to larger plants. About 1200 barrels per day of severely cracked gasoline are treated by the liquid method, and 1100 barrels of straight run are treated by the solid method. The cracked gasoline is extremely sour, containing 0.04 per cent mercaptan sulfur.

FORMER treating costs on the straight run gasoline were about 0.5 cent per barrel for caustic used to remove hydrogen sulfide, and about 2.0 cents per barrel for doctor solution. Costs to date with the copper method are about 0.1 cent for caustic, and 0.25 cent for copper reagent. This reagent was purchased in the prepared state at 5.6 cents per pound delivered; had the plant been large enough to justify local preparation of the reagent the cost would have been about 40 per cent less. As the original charge of reagent is still being used after six months' operation, and is expected to last another six months, the ultimate reagent cost is predicted to be below 0.1 cent per barrel, thereby showing more than a 90 per cent saving in chemicals over the doctor method.

Power costs are considered to be the same as formerly, since the same pumps are used. The air used has been mostly taken from the regular plant supply, without noticeable increase in the time the compressor runs. There have been no repair costs, and the treater has never been shut down except when the entire plant was down. All the major parts of the treater were constructed of salvaged material, and the investment has already much more than paid out.

The equipment consists of the former caustic washer, plus a 250-barrel settling tank, and two reagent towers each containing 4400 pounds of reagent. These may be used separately or in parallel or series. For the first four months only one tower was used, sweetening 142,000 barrels at a cost of 0.18 cent per barrel for reagent. As it was obvious a spare treater was unnecessary the two towers have since been operated in parallel which is expected to increase the reagent life, because of lower flow rates. The product is equal to, or better than, the former product in every respect.

The cracked gasoline includes the vapor recovery gasoline. Former treating costs were about 1.0 cent per barrel for caustic and 4.0 cents for doctor solution. When started, the system contained about 15,000 gallons of copper solution costing $1005. During the initial three months' operation about six per cent of the solution was lost, mechanically, mainly through leaks in the seams of the wood tanks because of faulty construction. We understand that this condition has now been remedied. The cost of making up this leakage would be about 0.06 cent per barrel of gasoline treated. Also during this period, because of improper caustic washing which has since been partially corrected, about 190 gallons of hydrochloric acid were added to the solution to neutralize caustic carried over into the copper system; assuming this acid to have cost 25 cents per gallon the cost was 0.045 cent per barrel. This makes the total copper solution replacement cost 0.105 cent per barrel. Recently we recommended that the strength of the solution be increased about 10 per cent in preparation for cold weather. This cost, however, should be considered part of the original investment for solution and not a make up charge. The extra chemicals used for this purpose will cost about $100.

The sodium sulfide stabilizing solution for the cracked gasoline as initially made up is still in use without addition of new chemicals. It originally cost $365 for 5500 gallons. There has been no appreciable volume loss, but analysis indicates it is about 20 per cent spent. This spending probably occurred during two periods, each of several hours' duration, in which the oxidation potential was allowed to fall below the prescribed minimum value by lack of attention to the air control. Sulfide cost has therefore been abnormally high, amounting to about $75 or 0.075 cent per barrel.

The finished cracked gasoline which leaves the sulfide washer clear and bright is also better than the former product in color, color stability, corrosion test and gum content. Octane number is better by 0.5 to 1.0 unit.

Caustic consumption for removal of hydrogen sulfide has been about 2000 pounds per month or 0.25 cent per barrel. The reduction has been 75-80 per cent from the previous consumption.

Labor costs for both the treaters are considered to be $55 per month. This figure represents a wage increase given the operators of the vapor recovery plant at the time the treating operation was turned over to them in addition to their regular duties. Previously three full-time treater operators were employed to do the doctor treating; therefore, the saving in labor costs amounts to a very appreciable sum. Maintenance to date has

Savings in Chemical Costs for Solid Copper Chloride Method

Average Daily Treating Rate —Gallons	Number of Days Since Installation	Volume Treated in Gallons	Reagent Employed —Pounds	Per Cent Savings Already Realized in Chemical Costs Over Previous Method
200,000	250	50,000,000	19,000	90
60,000	230	13,800,000	9,500	82
21,000	230	4,800,000	9,500	53
13,000	270	3,500,000	2,440	98+
11,000	430	4,700,000	1,000	95
9,000	360	3,200,000	1,000	85
8,000	400	3,200,000	2,000	87
8,000	360	2,900,000	2,000	84
6,000	360	2,200,000	1,000	90

consisted mainly of replacement of a few defective fittings immediately after the plant was put in operation.

Due to the extremely long life of the reagent, the solid copper chloride method has not been in use long enough for determination of definite minimum chemical costs. In one group of eleven plants installed only one has gone through a complete cycle of operation. The per cent savings in chemical costs at some of these plants up to July 20 of this year are given in the accompanying table.

The chemical savings shown for the copper method are based on the total amount of reagent employed in the treaters and in only one of these has the reagent become spent. The others are still functioning satisfactorily; the cost to date is considerably under those given for July 20 and as time goes on the cost per 1000 gallons will continue to decrease.

Materials of Construction

Although the usual materials of construction suffice for plants employing the solid reagent method of copper sweetening, considerable research and development time has been necessary in finding the most suitable materials for the solution method. Such materials must be highly resistant to attack by both the copper solution and the gasoline. These materials should have sufficient structural strength to permit fabrication of tanks, valves, pipes and fittings. Furthermore these materials should be moderately priced and available within a reasonable period of time. At the very outset, more than five years ago, there were available suitable materials meeting fairly satisfactorily all of these requirements. However, a constant search has been and is being made to find better materials.

The first installation included wooden tanks for storage and aeration of the copper solution and as contactors and separators for the treating step. Bakelite pipe and fittings were used as was some hard rubber. This plant has been in continuous operation for more than five years without extensive repairs, so it must be concluded that such materials may be used when and if desired. In more recent plants the separating tanks are made of Haveg instead of wood. Haveg pipe, valves, etc., have likewise been used. This material has given excellent service and is preferable to wood although it is somewhat more expensive and delivery from the factory requires a longer time than for most other materials. Still more recently Durichlor, a product of the Duriron Company, has been put into service in the form of centrifugal pumps, valves, etc., and is proving highly successful for such purposes. In general, therefore, it is felt that the materials of construction are now quite satisfactory and that the process is no longer hampered by the corrosive property of the copper solution.

Since there are available these different types of materials, the costs of plants naturally will vary considerably depending upon the desires of the owners. As an approximation, however, a solution sweetening unit of 3000 barrels per day capacity will cost from $8000 to $12,000 exclusive of the sodium sulfide settling tanks. Usually such settling tanks are available from the previous sweetening unit. Larger capacity units are constructed at a considerably lower per barrel cost. Plants employing the solid reagent method cost much less, averaging less than $1 per barrel rated capacity. If salvage material is available then the costs are still lower. It is readily seen, therefore, that the copper sweetening plants cost much less than doctor sweetening plants of equivalent capacity.

Advantages of the Copper Sweetening Methods

Some of the more important advantages of copper sweetening are summarized below:

Saving in Chemical Costs

Since only air is used up in the conversion of the mercaptans to disulfides, it is evident that the only chemical cost by the solution method of treatment is that due to mechanical loss of the treating solution. This loss has been almost negligible in the commercial application of the process. The cost of doctor treating, or of hypochlorite treating, is quite variable, depending to a great extent on the amount of mercaptans in the gasoline and on the means of regenerating the doctor solution. But in any instance the chemical cost has been a big item in the treating cost to every refiner and natural gasoline manufacturer. As exemplified by the quoted examples, almost all of this cost is eliminated by the new process.

No Loss in Gasoline During Treatment

As pointed out above, the doctor sludge prevents clean cut separation of the gasoline from the spent treating solution and some gasoline is always carried out with such solution. These losses of gasoline have been variously estimated and a figure from 0.5 to 1 per cent has been generally accepted. In a few instances, where centrifuging of the sludge has been resorted to, the loss is perhaps less than one-half per cent. The cost of centrifuging, however, must be taken into consideration in those cases. A treating loss of 1 per cent actually means a treating cost of over 2 cents per barrel. No treating loss occurs in the new copper sweetening processes.

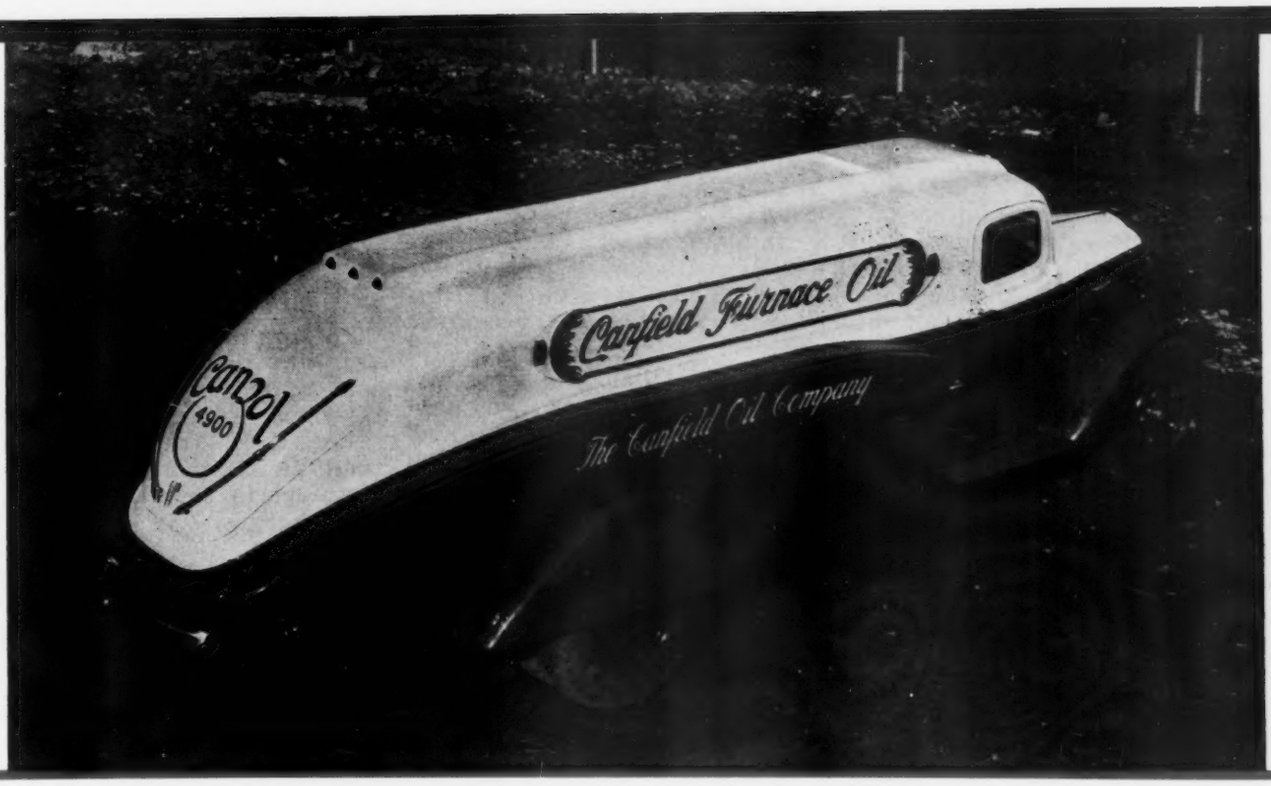
Reduction of Loss in Octane Number During Sweetening

It has been known for some time that when certain gasolines were sweetened with doctor solution there was an appreciable drop in octane rating, the drop amounting sometimes to two or more octane numbers. Tests of many samples of gasolines treated both with copper and doctor solutions have shown a greatly decreased loss occurring during copper sweetening; therefore, the improvement over doctor sweetening is equivalent to that amount of gain in octane number. In terms of added tetraethyl lead, the loss in octane number during doctor treating averages well over 1 cent per barrel, which should be charged to doctor treating.

Retention of Natural Gum Inhibitors in Gasoline

The so-called natural gum inhibitors in gasolines are hy-

(*Continued on page* 75)



This new 1000-gallon 5-compartment tank truck was recently placed in domestic field oil delivery service by the Canfield Oil Co.

Ohio Company Sells Oil Burners To Regain Fuel Oil Business

By **JOHN W. THOMPSON**
N. P. N. Staff Writer

FIFTEEN years ago the Canfield Oil Co., enjoyed a commanding position in the Cleveland fuel oil market. But in the years that followed, the tentacles of coal and natural gas competition began to spread over the district and Canfield's fuel oil gallonage in Cleveland started to dwindle.

Now, in 1936, after many months of study and investigation, Canfield is preparing to strike back in an effort to regain some of its fuel oil business. The weapon to be used is one that many oil companies in similar circumstances have found so effective — the oil burner.

Canfield first announced its burner sales division to the public on July 23. With an exclusive oil burner sales franchise in three Ohio counties, with Cleveland as a center, this 50-year-old oil company is setting out to sell oil heat in a territory supplied with natural gas and $8.50 per ton Pocahontas coal.

The plan of campaign is a constructive one. No attempt will be made to belittle competitive heating systems. The advantages and comforts which oil heat afford is to be the theme of the promotion campaign.

The entire sales effort is being directed at the home owner who has a hand-fired furnace. Canfield estimates that there are 240,000 potential prospects of this type in its 3-county territory. The home owner who has a stoker or who uses gas for heating will not be approached by a Canfield burner salesman.

The company plans to make no extravagant claims for its burner. For example, no claim will be made that Canfield oil heat is cheaper than $8.50 coal. In fact, the cards are laid on the table for the prospect and he is told that strictly from a price standpoint oil heat will cost slightly more than coal. Canfield estimates that about 135 gallons of furnace oil at 7½ cents per gallon is equal in heat value to one ton of Pocahontas coal at $8.50 per ton.

The Canfield program contends that oil heat is a convenience, that it eliminates coal shovel drudgery, that it saves steps, that it is cleaner, and that because of these facts the prospect should be willing to pay a slightly higher price for it, just as he does for other convenience products, such as vacuum cleaners, electric refrigerators, and electric sewing machines.

At present the company has three full time oil burner salesmen who cover the territory. More will be added as the business warrants it.

Newspapers are to be used as the backbone in the company's program to sell automatic heat and to make prospects "oil heat conscious". At present the newspaper ads are of a size that easily dominates the page, being three columns wide and 15 inches long.

The first ad carried the headline "Worn Out or Stepping Out!", and carried two contrasting pictures, one showing a tired young woman who is a slave to a coal shovel, and the other presenting two smiling young ladies leaving a house, their minds entirely unburdened of such cares as the heating system of the home. The copy continues the comparison

of the advantages of oil heat over the dirt, dust, and soot of a coal furnace.

An advertisement soon to appear will emphasize the fact that the company sells an oil burner "for every home, apartment, institution and industrial heating requirement".

Each newspaper ad includes a coupon which a prospect may send in to receive a free booklet on "Why More Than A Million Homes Heat With Oil". These coupons are turned over to the salesmen who follow them up with personal calls.

AN INTERESTING feature of the newspaper campaign is the fact that republican newspapers are being used. The company is of the opinion that most home owners are now of the republican faith.

The entire Canfield organization is being pressed into service as burner salesmen. Any employe who turns in the name of a prospect who becomes a customer, is given a $10 bonus or commission.

All of the attendants at the company's 200 retail outlets, including dealers, leased station operators, and company station men, are eligible to receive this bonus. All leads turned in by these men are given to the burner salesmen, who follow them up.

The company is installing burners in three Cleveland stations. These burners will be in operation and on display, and will serve as an actual demonstration for the prospect who wishes to see "what the burner will do".

The Canfield Oil Co. does only the selling. The burner manufacturer has set up a service and installation organization in Cleveland to handle all details after the sale has been made. When Canfield sells a burner, and incidentally gets the fuel oil contract along with it, the buyer pays Canfield for the burner and the cost of the installation, which includes one year's free service. Out of this amount Canfield pays the service company the cost of installing the burner.

In addition to handling the service and installation work, the burner manufacturer has set up a sales and display room in Cleveland for the use of the Canfield company.

Banners, announcing the oil burner, will soon be completed and will be placed on the company's trucks and at service stations.

In September, the company put into service a new 1000-gallon, 5-compartment streamlined fuel oil truck for domestic delivery. This unit is equipped with 3-inch mechanical emergency valves, 2½-inch steel tubing and valves, 2½-inch meter and ticket printer, a 2½-inch pump, and 150 feet of 1½-inch hose. On a test by the manufacturer, this unit delivered 75 gallons per minute through the hose.

While it is too early in the company's campaign to study results, officials are confident that the conservative and no-wild-claim type of program which they are following will attract profitable business and develop considerable good will.

WHY BE A "SLAVE" TO THE SHOVEL?
More than a million homes
HEAT WITH OIL!
EVERY MAN AND WOMAN should know the advantages, conveniences and economies of automatic oil heat.
Shoveling coal and ashes all winter long is the greatest drudgery in the home! Why go through another winter with a dirty coal furnace, when a Silent Glow Oil Burner installed in your present furnace will permanently banish coal, ash, dirt, dust and soot, and heat your home automatically 24 hours a day?
Silent Glow Oil Burners are noiseless and odorless... they burn low-priced fuel oil ... they keep your home uniformly warm ... they keep your basement and all rooms clean and immaculate!
Heat your home this modern, immaculate, automatic way. Send for the free 24-page booklet of facts and figures that caused more than a million homes to adopt oil heat. IT'S FREE! MAIL THE COUPON!
THE CANFIELD OIL CO.
SILENT GLOW OIL BURNER
BUY YOUR FUEL OIL FROM CANFIELD • • 'PHONE Michigan 6630
HEAT YOUR HOME THIS MODERN, AUTOMATIC WAY!
SILENT GLOW OIL BURNERS can be quickly and easily installed in your present furnace.
NO CASH DOWN — EASY TERMS
Send for this FREE BOOK
MAIL THIS COUPON

One of the series of Canfield newspaper ads which introduced the company's oil burner to the people of Cleveland

Trial Set for Dealer In Tax Evasion Case

NASHVILLE, Tenn., Sept. 19.—W. H. Land, former head of the Land Oil Co. of Memphis, will not plead guilty to conspiracy and evasion of gasoline taxes in Tennessee, but will stand trial as the first of more than 20 oil dealers under indictment in Tennessee on similar charges.

Counsel for Land, who was confined to a hospital in early June, secured postponement of his trial at that time, declaring he would enter a plea of guilty in order to avoid expenses of a long-drawn trial. Attorney-General J. Carlton Loser of Nashville agreed to the deferment after demanding that defense counsel make the promise to plead guilty definite before the court. The trial was reset for Sept. 21.

However, counsel for Land has notified the attorney general that Land had changed his mind and would formally enter a plea of "not guilty" and stand trial. The change was brought about through a misunderstanding, it is reported, that Land would be permitted to pay a fine and escape any workhouse or jail sentence. Failure to get such a definite agreement resulted in Land's change of his plea.

Further complications arise through A. C. Taylor, Texas oil broker, in his fight against extradition to stand trial with Land on the conspiracy charge. Taylor, indicted along with J. H. Campbell, former Gladewater, Texas, refinery agent, and numerous Tennessee independent oil dealers, appeared in Tennessee and made bond in the cases. Later he declined to return and started habeas corpus proceedings against extradition. His hearing is set for Oct. 7 before the Texas court of appeals, and may be appealed to the supreme court.

Campbell jumped bond on habeas corpus proceedings after his arrest in Houston early this spring and has not been located.

Even if Land is tried alone as one of the conspirators, other trials will await possible extradition of Taylor and capture of Campbell, the attorney general's office here indicates.

ADVERTISING PAGES REMOVED

Tests Show Tire Tread Wear Is Due to Many Causes

By JOHN W. THOMPSON
N. P. N. Staff Writer

• • •

WHEN one of your tire customers drives in to complain about the excessive wear on the tires he bought at one of your stations, are you or your attendants in a position to tell that customer some of the possible reasons for that wear?

Tires that have been subjected to intense heat and fast driving this summer may now begin to show the effects of such abuse. For example, tire engineers have found that when the atmospheric temperature is low, tire wear is low, and when the temperature is high, tire wear also is high.

U. S. Tire and Rubber Co. engineers have charted the relation between mileage expectancy and atmospheric temperature on the basis that a car traveling 30 miles per hour in 70-degree temperature will give 100 per cent mileage.

They found that an increase to 75 degrees in atmospheric temperature reduces the mileage expectancy to 90 per cent; an 80-degree temperature reduces the mileage expectancy to 80 per cent; and an increase to 90 degrees reduces it to 64 per cent.

Likewise they discovered by actual test that a decline in temperature from 70 to 60 degrees increases the expectancy 25 per cent.

Of course, one of the most common causes of rapid tread wear is under inflation of the tire, which results in excessive deflection. However, the effect of speed and temperature on wear reaches proportions that few realize.

In the accompanying chart, prepared by the B. F. Goodrich Co., the tremendous influence of speed and temperature on the rate of tread wear is clearly shown. The figures on the vertical axis of the chart are arbitrary, based on the assumption that at 20 miles per hour and at 40 degrees of atmospheric temperature the rate of tread wear is 100.

The chart shows that, at constant 40-degree temperature, the rate of wear increases to 120 at 30 m.p.h., and at 40 m.p.h. it increases to 150. It can be seen that at 40 miles per hour the tire wears out about half again as fast as at 20 m.p.h. for any constant temperature.

Temperatures, however, have a much more drastic effect on tread wear than does speed. For example, a tire that is driven 30 miles per hour has a rate of wear of 120 at 40 degrees, but at 80 degrees that rate has jumped to 370, and at 100 degrees it rises to 620. This means that at 40 degrees the tread wear is only one-third of what it would be at 80 degrees, and only one-fifth of what it would be at 100 degrees.

This difference of winter and summer tread wear has been the cause of much misunderstanding between tire sellers and their customers. With logical reasons for high summer tread wear, tire retailers can be in a position to quiet the wrath of some of the complainants.

The Goodyear Tire and Rubber Co. has made tests to determine a comparison of tread wear on wet and dry roads. The tests covered a period of several months, and the road used in the tests was fairly new concrete of a somewhat abrasive type.

The results of these tests showed that tread wear was only 57 per cent as fast when roads were wet as when they were dry.

Recently, in Arizona, Goodyear made a test to compare the wear of a dry tire with one kept continuously wet with a spray of water. It was found that the wet tire wore only 42 per cent as fast as the dry tire.

On one of its test fleets which made a recent cross country trip, Goodyear undertook an accurate test of the effect of speed on tire wear. In the fleet were 4 cars, two of one model, and two of another. One car of each model traveled at an assigned cruising speed of 50 m.p.h., the other pair was assigned to travel 70 m.p.h. The sets of tires were switched from one car to another at the end of each day so as to average out any peculiarities of cars or drivers.

THE cars assigned to the 50 m.p.h. speed actually averaged 45.5 m.p.h., whereas those assigned to do 70 m.p.h. averaged 56.2 m.p.h.. It was found as a result of the tests that the tread wear of the slower car was only 62 per cent as fast as that of the tires which traveled at the higher speed.

About a year ago Goodyear made some tests in which one group of cars operated on winding and hilly roads of exceedingly abrasive surface texture. The average speed of the test cars on these roads was about 27 m.p.h.

Another group of cars, identical in model and tire equipment, was operated on level roads, with few curves, little traffic, and which had an oiled gravel surface. This type of surface is unusually non-abrasive. The cars on these roads averaged about 60 m.p.h.

Where the cars operated on winding roads, the treads of the front tires wore smooth at approximately 3600 miles, and those on the rear at 3000 miles, according to Goodyear engiiners.

For cars operated on straight level road, the front tires wore

smooth at about 20,000 miles, and the rears wore smooth at 12,000 miles. Goodyear points out that these comparisons indicate the very great importance of texture and topography of roads as factors in the rate of tire wear.

As a means of emphasizing the importance of properly maintained tire pressures as an aid to satisfactory tread wear, Goodyear recently completed a test in which one set of tires was operated at 22 pounds and another set of identical tires at 28 pounds inflation. These two sets of tires were applied to the same car on alternate days. The tires operated at their recommended pressure (28 pounds) wore only 75 per cent as fast as those which ran at the lower pressure.

The fallacy of believing that there is economy in fast driving is not applicable to tires alone. The Tulsa Safety Council, working on co-operation with the state highway department in some comparative tests on fast and moderate driving, found recently that a considerable saving in the cost of gasoline could be realized by the moderate driver.

The safety council's safety promotion car, a stock 1936 Ford, started trips to adjacent cities, making two round trips daily. On each test, one trip was made at speeds averaging about 60 miles per hour, and the second trip was at about 40 m.p.h.

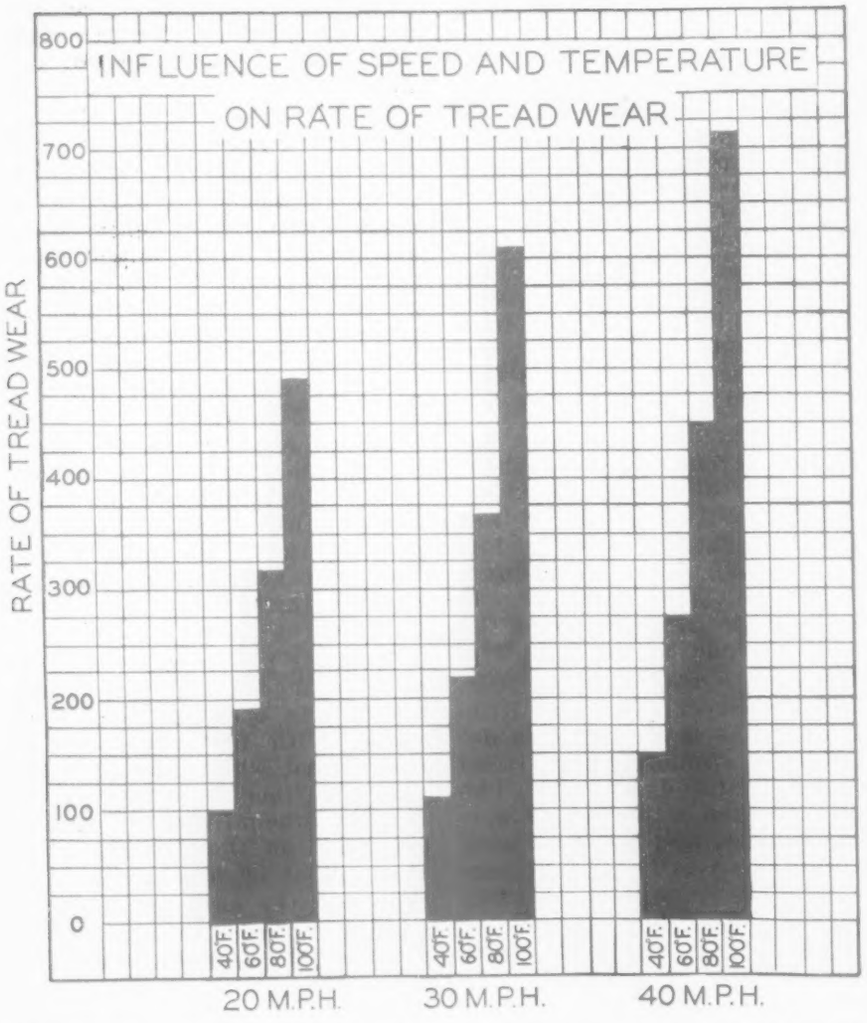
For the test trips at the fast speed, the average speed was 63.75 m.p.h. The car traveled 571.7 miles, and consumed 42.6 gallons of gasoline, averaging 13.42 miles per gallon.

On the above basis, 1000 miles of driving would require 74.53 gallons of gasoline, at a cost of $13.44 at current prices.

The slower car, on the same trips, averaged 39.3 m.p.h., and used only 28.15 gallons of fuel, for an average of 20.48 miles per gallon.

The Tulsa council points out that 1000 miles of 40-m.p.h. driving cost only $9.27 for fuel, or a saving of $4.17 in gasoline alone.

The Tulsa driving tests also showed that in city driving, over a 20-mile route, the 60-m.p.h. driver gained only 5 minutes in time over the 30-m.p.h. driver, and in addition the fast driver, on the basis of 1000 miles of city driving, will pay $82.90 more for his gasoline than will the slower driver in covering the same distance.



This chart, prepared by the B. F. Goodrich Co., Akron, shows the relationship of speed and atmospheric temperature to the rate of speed of tire tread wear, for three different tire speeds. As a basic figure, the rate of wear is set at 100 for 20 miles per hour and 40 degrees atmospheric temperature

'Gas' Tax Law Changes Are Recommended

JACKSON, Miss., Sept. 28.—Abolition of all gasoline tax refunds and elimination of the fuel oil tax are among the six important recommendations made to the Mississippi legislature by its legislative investigating committee, following a six months' probe of the administration and collection of the gasoline tax in the state.

The committee reported that, as a direct result of the investigation, gasoline tax collections have increased at the rate of approximately $3,000,000 a year since the beginning of the investigation. There has also been a substantial reduction in the amount of refund claims granted. Indictments numbering 150 have been returned by grand juries mainly for conspiracy to defraud the state by false billing of gasoline.

The committee also recommended that a new definition of gasoline be used in the gasoline tax law to replace the obsolete definition now in use; that the tax on petroleum solvents be reduced; that the state enter into reciprocal agreements with other states regarding interstate shipments of gasoline; and that the gasoline tax law be amended to require those importing liquid petroleum products into the state to report such shipments to the motor vehicle commissioner.

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370 St. Paul St., West, MONTREAL

Remodels Town's Eyesore Into Modern Station

MUSKEGON, Mich.

THE changing of two rest rooms to another side of the building, cutting off a top-heavy second story, putting in a few extra windows, and plastering the exterior with white stucco—all for the sum total of $800—eliminated a town eyesore and substituted a modern, attractive service station harmonious with modern trends in architecture.

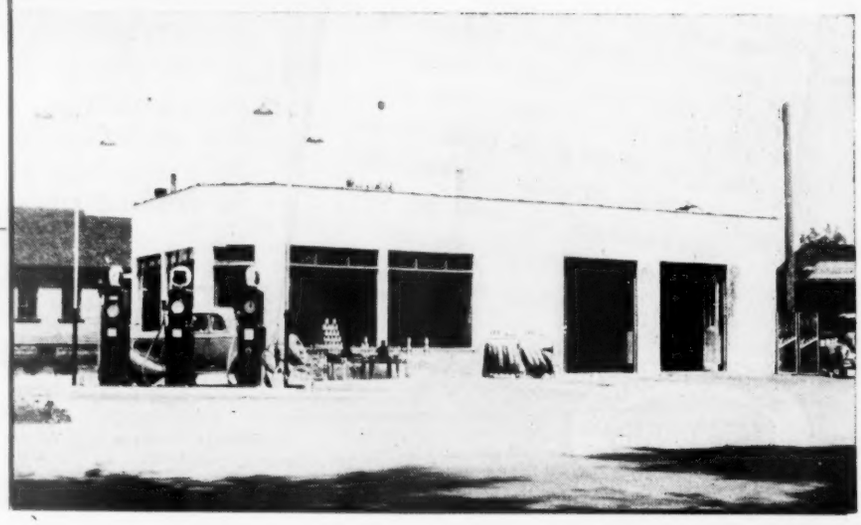
This was done by Super Service Stations, Inc., at Grand Haven, Mich. at the corner of 7th and Fulton Sts. The company had a service station on the ground level of a two-story house. The house was of those ungainly proportions that exceedingly bad taste dictated some years ago for structures serving practical purposes.

By entirely cutting off the upper story, the bad feature of ungainliness was eliminated. The hodge-podge of ugly roofs, slanting in many angles over the service station part, gave way to a flat, invisible one. The cluttered-up appearance of pumps and merchandise displays is replaced by orderly arrangement, resulting not only in a neater effect but in more space. In place of small gloomy windows darkened by a canopy there are wide double windows furnishing light and cheerfulness.

The two accompanying pictures show before and after remodeling.

Charles H. Latimer is president.

BEFORE and AFTER for $800



Discuss Effect of Patman Law on Pump Industry

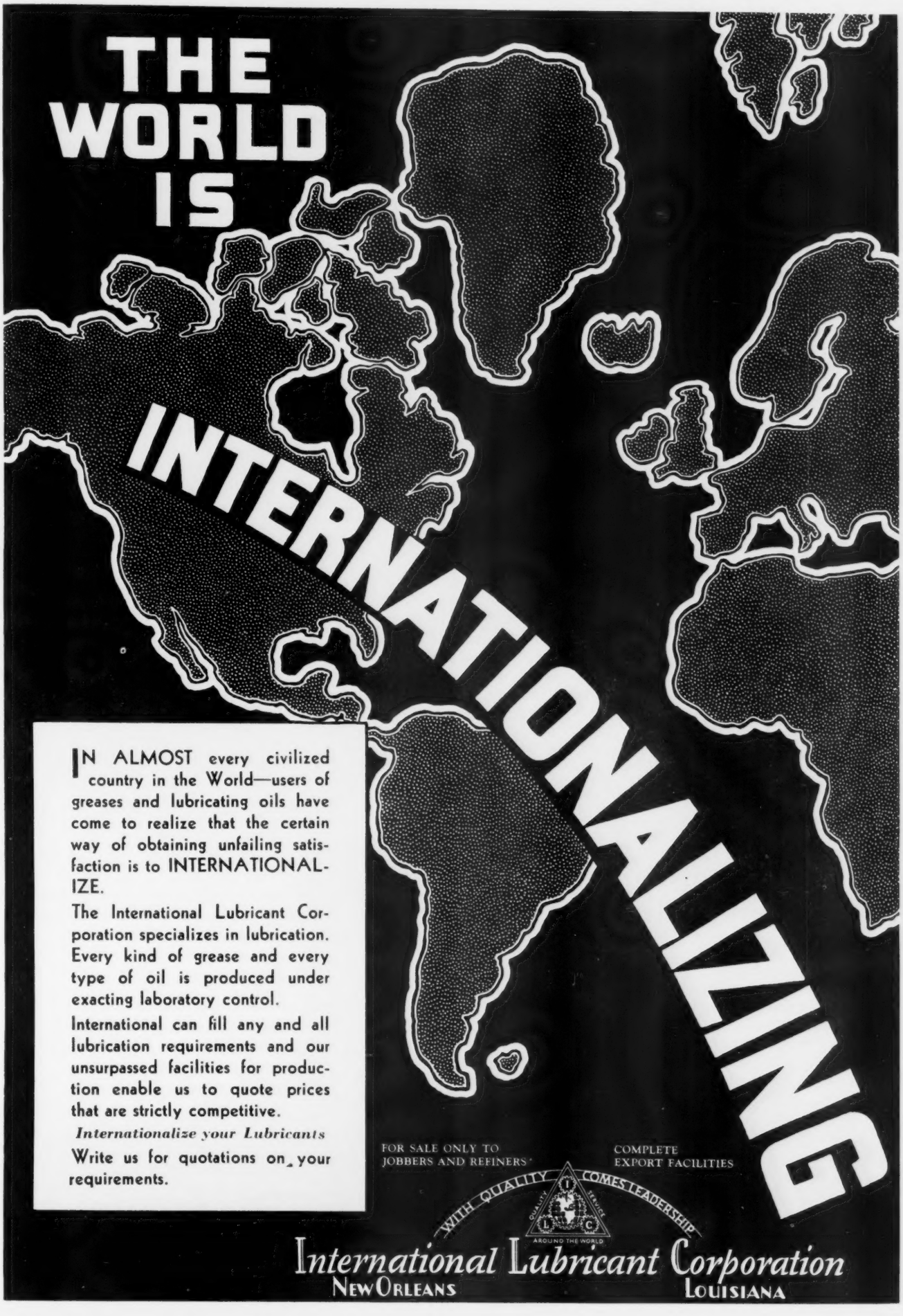
WASHINGTON, Sept. 29.—The Gasoline Pump Manufacturers Association is planning to submit to the Federal Trade Commission for approval a set of fair trade practices for the industry.

At a three-day meeting in Washington last week, representatives of the pump manufacturers attending voted unanimously to have fair trade practice rules. Since then, G. Denny Moore, managing director of the association, has been contracting the pump companies not represented at the meeting.

Another feature of the meeting was a general discussion of the Robinson-Patman law and its application to trade practices in the gasoline pump industry.

R. S. Smethurst, assistant counsel for the National Association of Manufacturers, discussed the law in detail and answered questions.

A banquet was held September 23, with Warren C. Platt, editor and publisher of NATIONAL PETROLEUM NEWS, as the principal speaker. Mr. Platt discussed recent developments in oil marketing.



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International Lubricant Corporation

NEW ORLEANS LOUISIANA

20 Tankers Building In Shipyards Here

WASHINGTON, Oct. 3.—Twenty ocean-going tankers, with a total gross tonnage of 154,900 tons, were under construction in American shipyards Sept. 1, according to the Bureau of Marine Inspection and Navigation.

Bethlehem Steel Co. has four tankers underway, totaling approximately 28,600 gross tons. Two of these are being built for Gulf Refining Co. and two for Standard of New Jersey.

Standard of New Jersey also has four tankers, each of 7550 gross tons, being constructed by the Federal Shipbuilding & Drydock Co., Kearney, N. J. These tankers are for coastwise trade. Two tankers for Pan American Petroleum & Transport Co. are underway at the Kearney plant.

Nine tankers totaling 79,600 gross tons were being built by Sun Shipbuilding & Drydock Co., Chester, Pa. Two each were for Pan-American, Socony-Vacuum Oil Co., Standard of New Jersey, and the Texas Co. and one for Atlantic Refining Co.

Pioneer Producer, 86 Dies in Tulsa

By Teletype

TULSA, Oct. 6.—Joseph H. Evans, dean of Mid-Continent oil producers, died Oct. 2 at his home here after an illness of three days. He was 86 years old and had been active up to the last as president of the Devonian Oil Co., a large independent producing company.

"Uncle Joe," as he was known to the hundreds who enjoyed his friendship, saw the beginning and development of the petroleum industry. He was eight years old when the Drake well was brought in, just 15 miles from his home in President, Pa.

With associates he organized the Ohio Oil Co., to operate in the Lima district. Following sale of the stock in this company to the Standard Oil company he formed the Devonian Oil Co., now one of the oldest in the business. Early operations of this company were in West Virginia, but it reached into the new Mid-Continent territory in 1903. Offices were first set up in Bartlesville but Mr. Evans established his home in Tulsa, then a small village, and made Tulsa his home thereafter.

Devonian's early operations were in the shallow territory of the Bartlesville region but in later years it has operated in many fields of Oklahoma and Texas.

Mr. Evans is survived by one daughter, Mrs. Morris Herkness, of Rydal, Pa. His one son died several years ago.

Absorbs Producing Subsidiary

DALLAS, Texas, Oct. 6.—The Atlantic Refining Co. Oct. 1 took over the business of the Atlantic Oil Producing Co., and will conduct it under the former name at the latter's old address, Magnolia Bldg., Dallas, according to E. H. Blum, vice-president and general manager of domestic production.

This producing subsidiary has properties and leases in Texas, Oklahoma, Kansas, Arkansas, Louisiana, New Mexico and Kentucky. Headquarters of the Atlantic Refining Co. are at Philadelphia.

Jacques Sonneborn

Gulf Buys Stations

TOLEDO, Oct. 1.—Johnson Oil Refining Co. has sold its bulk plant at two retail service stations here to Gulf Oil Corp. Leases on other stations operated by Johnson were taken over by Gulf. The deal now gives Gulf more than 100 outlets in Toledo.

Roy N. Lambert Dies

By Teletype

TULSA, Oct. 5.—Roy N. Lambert, vice-president of Western Oil & Fuel Company died October 2, at Albuquerque, N. M., where he has been the past 18 months due to ill health. Mr. Lambert came to Tulsa in 1923 as representative for W. H. Barber Oil Co. He became an official of the Western Oil in 1928 when it opened a branch office in Tulsa.

Funeral services were to be in Toledo, Ohio, October 6.

Jacques Sonneborn Dies; Prominent In Europe

NEW YORK, Oct. 3. — Jacques Sonneborn, of Hamburg, Germany, for 40 years one of the leading oil men of Europe, died recently. His firm, the Oelwerke, Stern Sonneborn A.G., was recognized as one of the largest independent oil companies on the Continent.

Mr. Sonneborn joined that company in 1886 at Cologne, and in succeeding years established branches in England, France and Italy, and the company soon became known as a leading distributor of American lubricating oils in Europe. In 1925 his company was taken over by the Royal Dutch Shell interests, at which time Mr. Sonneborn retired from active service.

He was one of the first importers into Europe of Pennsylvania lubricating oils, and between 1900 and 1915 bought a substantial portion of the output of such plants as the old Mutual, the old Germania Refining Co. (now Pennzoil), Conewango, and the Emlenton Refinery.

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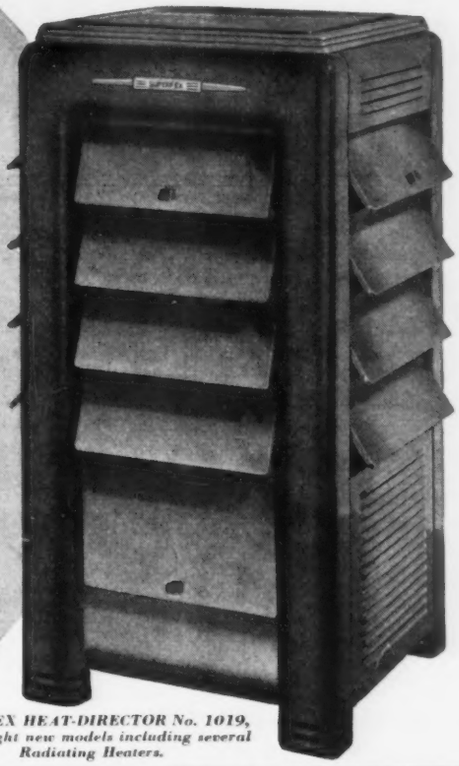

SUPERFEX HEAT-DIRECTOR No. 1019, one of eight new models including several Radiating Heaters.

MODERN OIL HEATING is the logical, practical heating method for service stations because of its flexibility for all weather conditions. That is one important reason why Superfex Heat-Directors, made by Perfection Stove Company have been adopted as standard station equipment by so many oil companies. Other reasons are Superfex proved heating performance and exclusive advantages.

The mark of Quality

The Superfex Heat-Director combines circulating and radiating heating and offers also DIRECTED heat rays, an exclusive, patented feature. This unique advantage is made possible by sets of adjustable shutters on three sides of the porcelain enameled cabinet. These patented shutters direct the heat which radiates from the surface of the combustion chamber, deflecting the heat rays outward and downward at any desired angle, making it possible to warm a wide area of floor surface.

Listed as standard by the Underwriters' Laboratories

The fuel used is No. 1 Light Domestic Fuel Oil or Distillate. The removable reservoir holds five gallons—a supply sufficient to hold the fire for as many as forty-two hours—almost two days. Connections for use with outside fuel storage are also available. Send for booklet giving complete information about eight new Superfex models including several Radiating Heaters also in modern design.

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• MARKETS •

CLEVELAND, Oct. 5

WHILE gasoline held its own in most refinery markets again last week, sharp reductions were made in Mid-Continent neutral oils and 0.5-cent reductions were made in Mid-Continent and Pennsylvania bright stocks and in some cylinder stocks. Pennsylvania neutral, however, went against the trend, as its prices worked up 0.5 cent.

The gasoline market was at pretty much of a stalemate, with sellers hesitant to offer material at present prices because of the narrow margin for profit; while buyers were none too anxious to place orders because they considered most market factors unfavorable. Consumption, however, continued at around record breaking levels for the season so that gasoline inventories decreased seasonally although they are still substantially higher relatively than they were a year ago.

With the neutral oil season just getting under way and with a record of about two years without a price reduction, except for one of temporary duration, several sellers of Mid-Continent neutral oil made reductions in prices ranging from 1.5 cents on the lower viscosity oils to 2.75 cents on the high viscosity oils. A competitive condition developed from these reductions that forced virtually all sellers to reduce their prices like amounts. Only a few grades escaped.

At the same time, increased offerings of Mid-Continent bright stock brought about a 0.5 cent reduction in that oil. The 631 steam refined was cut a like amount. Movement of Mid-Continent bright stock to foreign ports has tended to keep offerings in pretty good balance. Just recently, however, export orders have not been as plentiful, it was said. Some sellers, therefore, were offering and selling their oil to domestic jobbers. Because jobbers were not particularly anxious to purchase bright stock just now, sellers were forced to lower prices to get orders.

Much the same situation existed on Pennsylvania bright stock and 600 steam refined, which also were reduced 0.5 cent. While export buying of Pennsylvania bright stock still was fairly active, much of the oil sold for foreign consumption was a lighter color and lower pour test. Thus, some sellers of regular No. 8 color, 25 pour test were offering that grade direct to the trade at lower prices to get the business.

That Pennsylvania neutrals could move against the trend of other lubricating oil prices was due to the heavy demand and the excellent inventory position of that oil. Offerings remained fairly scarce after the advance, little if any additional supplies of oil having been brought out by the higher prices.

Trade interest was attracted so much by the reductions in lubricating oils and the ever increasing interest in fuel oils that the gasoline market was shoved into the background. Buyers were taking out what supplies they had to have, while refiners were none too anxious to sell in view of the small margin for profit which exists at present level of prices.

Observers could see little justification in refiners holding their gasoline off the market if they were doing nothing about cutting down on their production. While crude runs to stills were slightly lower the last full week of September and gasoline inventories decreased seasonally, there was still plenty of gasoline around and the seasonal motoring season is drawing to a close, it was pointed out. These were the main factors which were making buyers cautious about taking on supplies.

Gasoline prices in most markets were unchanged. There was some price shading reported, but with the spot market thin prices were largely nominal. Many observers were watching the Mid-Western market closely, believing that that market would show the market trend before the others. Little if anything developed in that market last week upon which to base any opinion of trends, however.

Interest in the Gulf market centered largely on Standard of New Jersey's advance of 5 cents in ships' bunker prices. Heavy fuel prices moved up although there was scarcely any activity. There was an unconfirmed report of a cargo of East Texas crude having been sold at 18 cents a barrel above the posted price in the field. Domestic buyers showed little interest in the gasoline market and there was no formal inquiry from foreign sources for gasoline. It was believed, however, that American suppliers could do some business if they would shade their present asking prices.

Offerings of wax were well held and prices were tending higher in most markets last week. While supplies were ample to meet requirements of buyers sellers were asking the full market price or higher.

N. P. N. Gasoline Index

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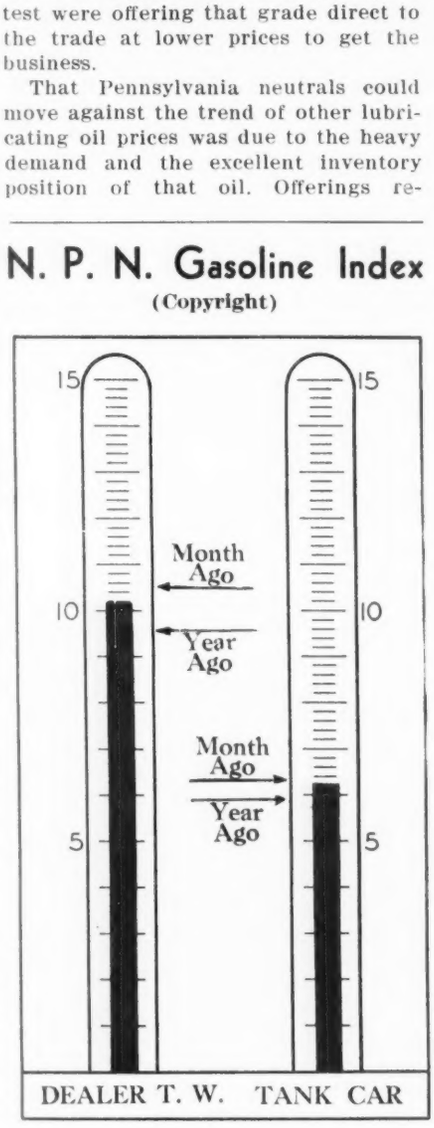


Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities. It replaces the retail index, discontinued this week for lack of sufficient postings of retail service station prices. Tank car index is a weighted average of 13 wholesale markets for regular-grade gasoline. The gasoline price index this week represents the following price in cents per gallon:

	Dealer T.W.	Tank Car
Oct. 5	10.19	6.24
Month ago	10.52	6.32
Year Ago	9.59	5.88

California

Prices Unsettled

LOS ANGELES, Oct. 2

PREDICTIONS of a break in the gasoline price structure as a result of irregularities in wholesale and retail gasoline quotations in the Los Angeles Basin area were generally discounted the past week. Officials of both major companies and independent refiners, however, recognized that the situation contained a number of undesirable features that might easily develop into a serious threat to stability.

So far, only one independent refiner of any importance had followed the lead of another independent in reducing bulk and retail gasoline prices. Indications were that, at least for the present, no major company would accept the challenge. Some doubt existed as to the actual tank wagon price obtained by two independent refiners for their products. Their nominal quotations for deliveries in the Basin area were 12 cents a gallon, inclusive of 4 cents tax, for competitive brands of gasoline and 13 cents a gallon for second structure, but the low retail prices posted for these products gave strength to the report that bulk deliveries were often made by these refiners at 11.5 and 12.5 cents a gallon, respectively.

Quotations in this area by other independent refiners and by all major companies were 13 cents a gallon for competitive and third grade brands and 14 cents for regular.

Competitive gasoline trucked from the San Joaquin Valley to the Basin area was reported available at 11.75 cents a gallon, which represented a differential of only 0.25 cent a gallon to cover handling and transportation from the refinery, as compared with an estimated cost of 0.5 cent a gallon for those services even when the supplier furnished his own trucks and used his own gasoline as motor fuel.

As a precaution against a possible marine tie-up that might involve tanker movements, considerable additions were made in stocks of gasoline and other petroleum products carried by major companies in Oregon and Washington. The fact that all available tankers had been chartered for these shipments, indirecty acted as a bar to the transportation of cargoes of gasoline from Gulf Coast ports to Los Angeles and other west coast cities. Negotiations for such shipments from the Gulf were known to have been halted by the failure of California independent marketers to secure suitable tankers.

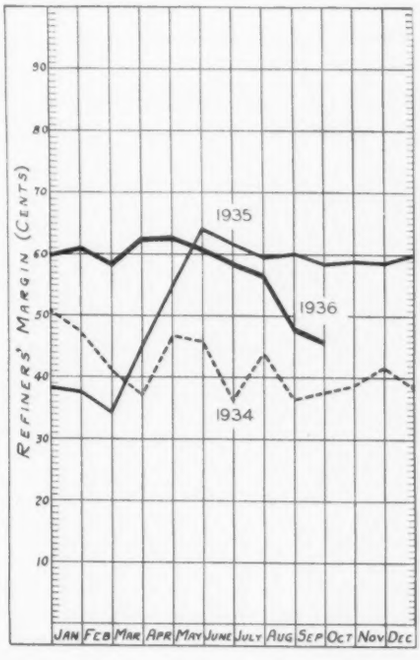
Natural gasoline quotations were unchanged at from 7.75 to 8 cents a gallon, delivered at refineries.

All burning oils were firmer, although no changes in quotations were reported. In anticipation of a price advance, ranchers were adding to their stocks of smudging oils and industrial users of fuel oil entered the market with more orders. Fuel oil ranged from $0.70 to $0.75 a barrel at independent plants in the Basin and from $0.725 to $0.75 in the Valley. Small quantities of low-grade fuel oil, with high sulphur content, were offered at $0.65 a barrel. Cracked residuum was reported to be selling at $0.75 a barrel, which was generally considered above the current value.

Diesel oil ranged from $1.05 to $1.10 a barrel at independent plants and at $1.47 to major company refineries.

Except for routine and intercompany shipments, Pacific Coast seaboard markets were inactive. Suppliers were unwilling to take contracts at the prices offered. In one instance, negotiations for a long-time contract for kerosine fell through when the buyer insisted on a change in the specifications that would have been accepted by the seller earlier in the year.

N. P. N. Refinery Index



Refinery Index is the calculated average return from refining a barrel of 36 gravity Mid-Continent crude. The index this month indicates the following margins in cents per barrel between cost of crude and selling price of products (See N.P.N., Aug. 28, 1935 page 26):

Date	Margin
Oct. 1	45.7
Month ago	47.9
Year ago	58.5

Mid-Continent

Neutral Prices Slashed

TULSA, Oct. 3

MID-CONTINENT neutral oil prices were slashed the past week for the first time in two years. Prices for bright stock and one grade of steam refined stock also were reduced. Reductions in neutral oil prices ranged from 1.5 cents on the lower viscosity grades up to 2.75 cents for the high viscosity oils. Bright stock and 631 steam refined stock prices were reduced 0.5 cent.

The trade generally expressed surprise at the deep price cuts in neutral oils just as this oil was entering its peak season. Undercover offerings at low prices made by some suppliers, however, created a competitive situation that eventually sent price tumbling. These offerings multiplied to the extent that other suppliers could no longer resist the competition created. A general price reduction on all grades of viscous neutrals followed.

Bright stocks were in much the same position as neutral oils. Several Mid-Continent refiners had a surplus of this product. This surplus was offered to blenders and resale agents at lower prices. The resultant competition made it necessary for other suppliers to meet lower prices in order to obtain business. Export shipments of bright stock still were absorbing a large amount of the oil offered but apparently was not sufficient to absorb all offerings. Reports continued to persist that small lots of bright stock could be purchased at even lower prices.

Mid-Continent kerosine markets took on renewed vigor last week as farming activity increased. While shipments still fell short of so-called normal, increased business caused slight price advances in Oklahoma. Another factor that may have contributed to the price advance was the influence of light fuel oils on kerosine.

Offerings of gasoline were in better balance with demand the past week, traders reported. As a result prices were steadier at current levels and low-priced offerings have about disappeared. Some refiners actually advanced quotations for the U. S. Motor grades of gasoline 0.125 cent. Gasoline available at former prices, however, was in sufficient volume to be representative of the going market.

Both 63-67 and 68-70 octane gasolines were in brisk demand, refiners reported. Supplies of these grades tightened considerably the past week. With natural gasoline prices at pres-

ent levels, refiners found that lower prices for finished motor fuel were not profitable.

Few open market transactions in natural gasoline were completed, according to most reports. The advancing market the last two weeks of September sent most buyers into the market for October requirements earlier than usual. As a result, the output of most plants in Oklahoma and Texas was sold up for the first half of October. Buyers already were lining up supplies for the last half of the month.

Manufacturers had no difficulty obtaining current prices for Grade 26-70. In some cases demand exceeded supply.

Higher prices for natural gasoline have discouraged cargo buying at the Gulf, according to some reports. Occasional inquiries, however, were being received.

Pennsylvania

Bright Stock Lower

CLEVELAND, Oct. 3

A REDUCTION of 0.5 cent each in bright stock and 600 steam refined stock, a similar advance in neutral oil prices, and a 0.125 cent advance in 36-40 fuel oil prices were the outstanding events in the Pennsylvania market the week ended Oct. 3.

Gasoline prices showed little change, higher octane grades particularly holding firm as consumption remained at record levels. U. S. Motor was fairly firm although some refiners were quoting and selling up to 0.25 cent under the published market. Kerosine remained firm. Wax prices were steady to higher.

Because of the good inventory position of bright stock, some traders were surprised at the reduction in price. At the same time, however, they were aware that jobber buying was slack. Apparently some sellers were making an effort to stimulate jobber buying by offering lower prices. This effort was successful to a certain extent because several sales were reported at the lower levels. As a matter of fact some price shading was reported even after the advance.

While jobber buying remained slack, inter-refinery buying tended to keep current production moving. Much of the buying the past week was for export accounts and called for oil with lighter color and lower pour test than the regular grade. In some quarters it was reported that more export orders were about to materialize. These reports were not confirmed, however.

Offerings of 600 steam refined were on the increase and sales were reported at 0.5 cent lower. The increase in offerings was due to two reasons. First, some refiners were switching from production of higher flash stocks to 600. In addition, processors of 600 were running to a lighter pour and lower cold test bright which tended to keep production down. Therefore, they were not using so much 600 steam refined.

The advance in neutral prices was long over due, according to most traders. Offerings have been fairly scarce for some time, although oil was available at all times. With demand showing the usual seasonal increase, virtually all sellers advanced their prices at least 0.5 cent.

Some sellers continued their policy of quoting and selling at up to 0.25 cent under published prices for U. S. Motor. So long as the quotations and sales were made on this basis and not at a specified price, the transactions had no direct effect on the published market. This policy tended to force other marketers to meet this competition by quoting on a flat basis at the lower price, but volume thus offered the past week was not generally considered representative of the market.

With demand for 36-40 fuel oil active and supplies limited, prices moved up 0.125 cent. Colder weather and the steady rate of industrial operations caused demand to increase.

Eastern

N. Y. Kerosine Higher

NEW YORK, Oct. 3

THE Gasoline market situation at eastern seaboard terminals showed little change in the week ended Oct. 3. Prices for the most part were steady despite the fact that movement was not as active. Such price shading as there was appeared to be confined to the New York harbor market.

Retail gasoline markets along the seaboard presented a spotty picture. Prices in metropolitan New York City area were steady with the vast majority of dealer stations offering 6 gallons of regular for 98 cents. With the slightest improvement in the New York harbor barge and tank car markets, several wholesale suppliers were of the opinion the retail market in the metropolitan area would advance.

Both to the north and to the south of New York City, however, retail markets appeared to be unsettled. There was no change in service station postings at important New England points but under-cover rebating was said to be more widespread. Secret discounts also were said to be increasing in the areas immediately south of New York.

The only change in terminal gasoline prices the past week was a 0.25-cent advance in quotations for 60-64 octane in barges at New York harbor. This grade was available from only a very few sources. Where offered, it was held at the same price quoted by other suppliers of 65 octane and above.

Tank car prices at New York harbor were held at 6.5 cents and 6.75 cents for the 60-64 and above 65 octane grades, respectively. Toward the end of the week reports of these prices being shaded were increasing although it was admitted in most quarters that the prices were largely nominal.

Kerosine was 0.25 cent higher at New York at 4.5 to 4.625 cents in tank cars and 4.375 to 4.5 cents in barges. Most traders reported doing a fair volume of business at the higher prices. Elsewhere along the seaboard, kerosine showed little change.

Chicago

Trading Quiet

CHICAGO, Oct. 3

A SOMEWHAT neglected Mid-Western gasoline market went through the week ended Oct. 3 without change. While there was some buying activity the first few days of the week, open market trading was slack the latter part of the week. Sellers expressed the belief that the thin market reflected both hesitancy on the selling side, and on the part of buyers.

Indications were that refiners were anxious to await developments because the declining price trend of the past month has carried prices to levels where, they said, returns were not sufficient to cover costs.

However, odd-car lot offerings of extremely low octane gasoline, not generally considered a representative third grade, was heard last week at reduced prices. While these offerings were limited, nevertheless they had an unsettling influence on tank car markets. For the most part sellers disregarded this type of competition.

Offerings of full specification 63 to 67 octane gasoline were free at a minimum of 4.75 cents last week. Buying of 68 to 70 octane gasoline at 5.25 cents was not sufficient to take up available offerings of this product.

Occasional shaded offerings of these two grades were heard, but they were the exception. The majority of resellers said they could not obtain supplies of full specification material to resell at under 4.75 and 5.25 cents, respectively. Several refiners indicated they would not meet reduced competition, and in some cases were asking up to 0.25 cent higher.

Interest in kerosine mounted last week in the Mid-Western market. Prices were steady to higher all week.

A brisk demand for kerosine for use as range oil was reported.

Coastal

Heavy Fuels Tight

NEW YORK, Oct. 3

HEAVY fuel oils were priced higher in the cargo market at the Gulf the past week. Kerosine and light fuels also were tending higher. Gasoline prices, both for export and domestic movement, were generally unchanged.

Heavy fuel prices moved upward on a minimum of activity. Offerings were negligible at any price. Buyers reported bidding $0.90 a barrel for a cargo of Grade C bunker oil with no success. At the same time suppliers were not disposed to indicate anything higher as their ideas of price, nor did they indicate that they might be willing to sell in case buyers bid still higher prices. The cargo market for Grade C appeared to be at pretty much of a stalemate with the price purely nominal at $0.90.

Standard of New Jersey's advance in ships' bunker prices Oct. 1 served to tighten the heavy fuel market still further. Following this advance, one or two buyers indicated they might bid above $0.90 for cargoes of Grade C, but it remains to be seen if such bids will pry loose any offerings.

Domestic gasoline buyers continued to hold to the sidelines. Prices were unchanged.

Kerosine and light fuels were closely held and prices were pointing higher. No actual sales, or firm bids, have been made as yet, however, which would substantiate higher prices.

The Panuco crude market continued tight. Only one cargo was reported available for lifting before Dec. 1 and a price of $0.95 was said to have been bid for it. This is up 3 cents a barrel from the last paid price.

Wax

White Scale Higher

NEW YORK, Oct. 3.—White crude scale was priced slightly higher in the eastern and Gulf Coastal wax markets the past week. Demand generally was reported fair to good. Supplies were ample, according to reports, but offerings in the current market were limited.

Small-lot sales of 124,126 white crude scale were reported in the New York market at 2.45 cents a pound the past week, up 0.05 cent from the general market minimum of the previous week. Several companies were asking up to 2.55 cents.

Prices for fully refined waxes generally were steady and demand was reported moderately active from most sources.

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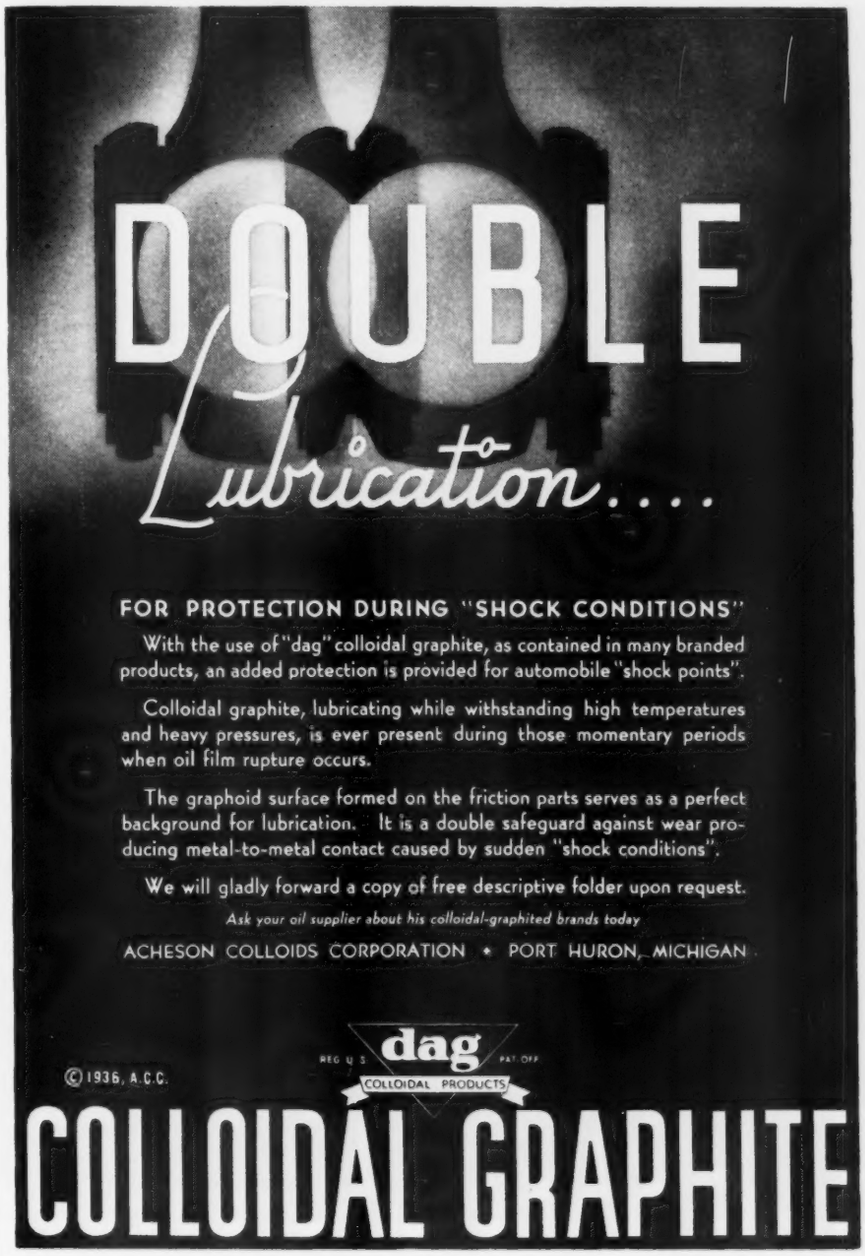
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REFINERY TANK CAR MARKETS

Prices in cents per gallon, tank car lots, except where otherwise noted. Prices are those to domestic jobbers who resell to consumers. They do not represent inter-refinery sales, or sales for export. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.

Gasoline *and* Naphtha

Oklahoma	**Oct. 5**	**Sept. 28**	**Sept. 21**
48-54, 450 e.p. naphtha	*4.50 – 4.75	*4.50 – 4.75	*4.50 – 4.75
U. S. Motor gasoline, by octane numbers:			
62 octane and below..	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75
63-67 octane.....	4.875– 5.375	4.875– 5.375	4.875– 5.375
68-70 octane (regular).	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75
60-62, 400 e.p. gasoline	4.625– 4.75	4.625– 4.75	4.625– 4.75
64-66, 375 e.p. gasoline	5.00 – 5.125	5.00 – 5.125	5.00 – 5.125
68-70, 350-360 e.p. gasoline.....	*5.00 – 5.25	*5.00 – 5.25	*5.00 – 5.25

*Nominal.

Western Penna. (Quotations and/or sales prices to car unloaders)

Bradford-Warren:			
52-54 naphtha.....	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625
Motor gasoline:			
U.S. Motor (58-62°)	5.625– 5.75	5.625– 5.75	5.625– 5.75
Minimum 60 octane	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125
Minimum 65 octane	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375
Minimum 70 octane	.....	.....	.....
64-66, 390 e.p. gasoline	5.875– 6.00	5.875– 6.00	5.875– 6.00
68-70, 350-360 e.p. gasoline.....	6.125– 6.25	6.125– 6.25	6.125– 6.25
Other districts:			
52-54 naphtha.....	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625
54-56 naphtha.....	5.625– 5.75	5.625– 5.75	5.625– 5.75
Motor gasoline:			
U.S. Motor (58-62°)	5.625– 5.75	5.625– 5.75	5.625– 5.75
Minimum 60 octane	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125
Minimum 65 octane	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375
Minimum 70 octane	.....	.....	.....
64-66, 390 e.p. gasoline	5.875– 6.00	5.875– 6.00	5.875– 6.00
68-70, 350-360 e.p. gasoline.....	6.125– 6.25	6.125– 6.25	6.125– 6.25

California (3c tax to be added to prices if used in state)

54-58 U.S. Motor, 437 e.p. for in-state shipment.....	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
54-58, U.S. Motor, 437 e.p. for outside state shipment.....	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
58-61, 375-400 e.p. gasoline, 65 octane and above.....	8.25 – 9.00	8.25 – 9.00	8.25 – 9.00

†***North Texas*** (F.o.b. Wichita Falls district for shipment to Texas and New Mexico destinations; Group 3 prices quoted on northern shipments).

U. S. Motor gasoline, by octane numbers:			
62 octane and below..	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75
63-67 octane.....	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
68-70 octane (regular).	5.50 – 5.625	5.50 – 5.75	5.50 – 5.75
60-62, 400 e.p. gasoline	4.625– 4.75	4.625– 4.75	4.625– 4.75
64-66, 375 e.p. gasoline	4.875– 5.00	4.875– 5.00	4.875– 5.00
68-70, 350-360 e.p. gasoline.....	5.00 – 5.125	5.00 – 5.125	5.00 – 5.125

Kansas (F.o.b. refinery, Kansas destination)

U. S. Motor gasoline, by octane numbers:			
62 octane and below..	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875
63-67 octane.....	*	*	*
68-70 octane (regular).	5.75 – 5.875	5.75 – 5.875	5.75 – 6.00
60-62, 400 e.p. gasoline	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00

*This price discontinued due to thinness of open market sales.

†***West Texas and New Mexico*** (F.o.b. W. Texas and N. Mex. refineries for unrestricted shipment)

U. S. Motor gasoline, by octane numbers:			
62 octane and below..	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75
63-67 octane.....	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
68-70 octane (regular).	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75

†***East Texas*** (F.o.b. East Texas refinery for unrestricted shipment)

U. S. Motor gasoline, by octane numbers:			
62 octane and below..	4.50 – 4.625	4.50 – 4.625	4.50 – 4.625
60-62, 400 e.p. gasoline	4.50 – 4.625	4.50 – 4.625	4.50 – 4.625

North Louisiana (For Louisiana and Arkansas destination)

U. S. Motor gasoline:			
62 octane and below..	5.50	5.50	5.50
63-67 octane.....	6.25	6.25	6.25
68-70 octane (regular).	6.50	6.50	6.50

†Refiners generally receive from 0.25c to 0.5c per gallon more for gasoline and kerosine for local or differential territory shipment.

	Oct. 5	**Sept. 28**	**Sept. 21**
Arkansas (For Arkansas and Louisiana destination)			
U. S. Motor Gasoline:			
62 octane and below..	5.50	5.50	5.50
63-67 octane.....	6.25	6.25	6.25
68-70 octane (regular).	6.50	6.50	6.50
Ohio (Quotations of S. O. Ohio. Delivesed any point in Ohio).			
U. S. Motor gasoline..	8.25	8.25	8.25
Above 65 octane no.	8.50	8.50	8.50

Natural Gasoline

(Prices shown f.o.b. Group 3 and Breckenridge represent majority of sales made on dates shown to blenders on the freight basis shown below, although shipments may originate in other manufacturing districts, such as East Texas, Panhandle, Southwest Texas or Kansas).

F.o b. Group 3			
Grade 26-70.....	4.50	4.50	4.50
F.o.b. Breckenridge			
Grade 26-70.....	4.25	4.25	4.25
California (F.o.b. plants in Los Angeles basin)			
75-85, 375-390 e.p. for blending.....	7.75 – 8.00	7.75 – 8.00	7.50 – 8.00

Kerosine

Western Penna. (Quotations and/or sales prices to car unloaders)

Bradford-Warren:			
45 w.w. kerosine.....	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875
46 w.w. kerosine.....	4.875– 5.00	4.875– 5.00	4.875– 5.00
47 w.w. kerosine.....	5.00 – 5.125	5.00 – 5.125	5.00 – 5.125
Other districts:			
45 w.w. kerosine.....	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875
46 w.w. kerosine.....	4.875– 5.00	4.875– 5.00	4.875– 5.00
47 w.w. kerosine.....	5.00 – 5.125	5.00– 5.125	5.00 – 5.125
Oklahoma			
41-43 w.w. kerosine...	3.125– 3.25	3.00 – 3.25	3.00 – 3.25
42-44 w.w. kerosine...	3.25 – 3.375	3.125– 3.375	3.125– 3.375
Kansas (F.o.b. refinery Kansas destination)			
41-43 w.w. kerosine...	3.25 – 3.50	3.25 – 3.50	3.25 – 3.50
42-44 w.w. kerosine...	3.50 – 3.625	3.50 – 3.625	3.50 – 3.625

†***North Texas*** (F.o.b. Wichita Falls district or shipment to Texas and New Mexico destinations; Group 3 prices quoted on northern shipments).

41-43 w.w. kerosine...	3.125– 3.375	3.125– 3.375	3.125– 3.375

†***East Texas*** (F.o b. East Texas refinery for unrestricted shipment)

41-43 w.w. kerosine...	*3.125	*3.125	*3.125

*Nominal.

North Louisiana (For Louisiana and Arkansas destination)

41-43 w.w. kerosine...	3.75 – 3.875	3.75 – 3.875	3.75 – 3.875

Arkansas (For Arkansas and Louisiana destination)

41-43 w.w. kerosine...	*4.00 – 4.25	*4.00 – 4.25	*4.00 – 4.25

*Only one refiner quoting.

California (F.o.b. California refineries)

38-40 w.w. kerosine...	4.00 – 5.00	4.00 – 5.00	4.00 – 5.00

Gas *and* Fuel Oils

Western Penna. (Quotations and/or sales prices to car unloaders)

Bradford-Warren:			
36-40 fuel oil.....	4.375– 4.50	4.25 – 4.375	4.25 – 4.375
Other districts: (Excluding Pittsburgh District Prices)			
36-40 fuel oil.....	4.375– 4.50	4.25 – 4.375	4.25 – 4.375
Oklahoma (F.o.b. Oklahoma refineries)			
No. 1 white fuel oil...	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25
No. 1 straw fuel oil...	2.875– 3.125	2.875– 3.125	2.875– 3.125
No. 2 straw fuel oil...	2.875– 3.00	2.875– 3.00	2.875– 3.00
No. 2 dark fuel oil....	2.875– 3.00	2.875– 3.00	2.875– 3.00
U. G. I. gas oil.....	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625

(Continued on next page)

REFINERY TANK CAR MARKETS

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	Oct. 5	Sept. 28	Sept. 21
Fuel oils: (Prices per barrel of 42 U. S. gallons)			
28-30 zero	2.875	2.75 – 2.875	2.75 – 2.875
28-30	$1.00 –$1.10	$1.00 –$1.10	$1.00 –$1.10
24-26	$0.75 –$0.80	$0.75 –$0.80	$0.75 –$0.80
18-22	$0.725–$0.775	$0.725–$0.775	$0.725–$0.775
14-16	$0.625–$0.65	$0.625–$0.65	$0.625–$0.65
Kansas (F.o.b. refinery, Kansas destination)			
No. 1 p.w., fuel oil	3.125– 3.375	3.125– 3.375	3.125– 3.375
18-22 fuel oil (per bbl.)	$0.75 –$0.775	$0.75 –$0.775	$0.75 –$0.775
10-14 fuel oil (per bbl.)	$0.675–$0.725	$0.675–$0.725	$0.675–$0.725
North Texas (F.o.b. Wichita Falls district for shipment to Texas and New Mexico; Group 3 prices quoted on northern shipments).			
No. 1 straw, fuel oil	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125
No. 1 white, fuel oil	3.125	3.125	3.125
U.G.I. gas oil	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625
No. 2 fuel oil	*3.00	*3.00	*3.00
24-26 fuel oil (per bbl.)	$0.675–$0.70	$0.675–$0.70	$0.675–$0.70
18-22 fuel oil (per bbl.)	$0.60 –$0.65	$0.60 –$0.65	$0.60 –$0.65
*Nominal.			
West Texas (F.o.b. West Texas refineries for unrestricted shipment).			
No. 2 fuel oil	*3.00	*3.00	*3.00
18-22 fuel oil (per bbl.)	$0.675–$0.70	$0.675–$0.70	$0.675–$0.70
*Nominal.			
East Texas (F.o.b. East Texas refineries for unrestricted shipment).			
No. 1 white, fuel oil	*3.00 – 3.125	*3.00 – 3.125	*3.00 – 3.125
U.G.I. gas oil	2.50	2.50	2.50
No. 2 fuel oil	*3.00	*3.00	*3.00
24-26 fuel oil	$0.65 –$0.675	$0.65 –$0.675	$0.65 –$0.675
20-24 fuel oil	$0.65	$0.65	$0.65
*Nominal.			
North Louisiana (For Louisiana and Arkansas destination).			
No. 2 fuel oil	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125
U.G.I. gas oil	2.625	2.625	2.625
20-24 fuel oil (per bbl.)	$1.05 –$1.10	$1.05 –$1.10	$1.05 –$1.10
16-20 fuel oil (per bbl.)	$0.95 –$1.00	$0.95 –$1.00	$0.95 –$1.00
10-14 fuel oil (per bbl.)	$0.70 –$0.75	$0.70 –$0.75	$0.70 –$0.75
Arkansas (For Arkansas and Louisiana destination)			
No. 2 fuel oil	3.25	*3.25	*3.25
28-30 gas oil, zero	*3.00	*3.00	*3.00
20-24 fuel oil (per bbl.)	$0.825–$0.875	$0.825–$0.875	$0.825–$0.875
16-20 fuel oil (per bbl.)	$0.725–$0.775	$0.725–$0.775	$0.725–$0.775
10-14 fuel oil (per bbl.)	$0.60 –$0.65	$0.60 –$0 65	$0.60 –$0.65
*Only one refiner quoting.			
California			
San Joaquin Valley, per bbl.:			
Grade C fuel oil	$0.725–$0.85	$0.725–$0.85	$0.725–$0.85
Diesel fuel oil	$1.00 –$1.47	$1.00 –$1.47	$0.95 –$1.47
Stove distillate	$1.20 –$1.89	$1.20 –$1.89	$1.20 –$1.89
Los Angeles, per bbl.:			
Grade C fuel oil	$0.70 –$0.95	$0.75 –$0.95	$0.75 –$0.95
Diesel fuel	$1.00 –$1.47	$1.00 –$1.47	$0.95 –$1.47
Stove distillate	$1.20 –$1.89	$1.20 –$1.89	$1.20 –$1.89
San Francisco, per bbl.:			
Grade C fuel oil	$1.00	$1.00	$1.00
Diesel fuel	$1.68	$1.68	$1.68
Stove distillate	$2.10	$2.10	$2.10

Neutral Oils

Western Penna. (Quotations and/or sales prices to car unloaders)

Viscous Neutrals (Viscosity at 70° F.)

200 Vis. (180 at 100°) No. 3 color, 420-425 flash:			
0 pour test	23.50 –24.00	23.50 –24.00	23.00 –23.50
10 pour test	22.50 –23.00	22.50 –23.00	22.00 –22.50
15 pour test	22.00 –22.50	22.00 –22.50	21.50 –22.00
25 pour test	21.00 –21.50	21.00 –21.50	20.50 –21.00
180 Vis. (165 at 100) No. 3 color, 410-415 flash:			
25 pour test	20.00 –20.50	20.00 –20.50	19.50 –20.00
150 Vis. (143 at 100) No. 3 color, 400-405 flash:			
0 pour test	20.00 –20.50	20.00 –20.50	19.50 –20.00
10 pour test	19.00 –19.50	19.00 –19.50	18.50 –19.00
15 pour test	18.50 –19.00	18.50 –19.00	18.00 –18.50
25 pour test	17.50 –18.00	17.50 –18.00	17.00 –17.50

South Texas (F.o.b. South Texas refineries, for domestic shipment)

Vis. Color			
Pale Oils:	(*Viscosity at 100° F.; pour test 0*)		
100 No. 1½-2½	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
200 No. 2-3	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
300 No. 2-3	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
500 No. 2½-3½	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
750 No. 3-4	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
1200 No. 3-4	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
2000 No. 4	9.25 –10.00	9.25 –10.00	9.25 –10.00
Red Oils:			
200 No. 5-6	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
300 No. 5-6	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
500 No. 5-6	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
750 No. 5-6	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
1200 No. 5-6	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
2000 No. 5-6	9.25 –10.00	9.25 –10.00	9.25 –10. 00

Note: South Texas red oil prices shown above cover oils with green cast; blue cast red oils are slightly lower in some cases.

Mid-Continent (Viscosity at 100° F.; F.o.b. Tulsa basis. Prices represent majority of quotations)

0 to 10 Pour Point:			
Pale Oils			
Vis. Color			
60-85—No. 2	5.25	5.25	5.25
86-110—No. 2	5.75	5.75	5.75
150—No. 3	8.50	10.00	10.00
180—No. 3	9.50	11.25	11.25
200—No. 3	10.00	11.75	11.75
250—No. 3	11.00	13.75	13.75
280—No 3	12.00	14.75	14.75
300—No. 3	12.50	15.25	15.25
Red Oils:			
180—No. 5	8.50	10.25	10.25
200—No. 5	9.00	10.75	10.75
250—No. 5	10.00	12.75	12.75
280—No. 5	11.00	13.75	13.75
300—No. 5	11.25	14.00	14.00

Note: Viscous and non-viscous oils, 15 to 25 pour point are generally quoted 0.5c under 0 to 10 pour point oils. Viscous oils (150-300 vis.), No. 4 color, are generally quoted 0.5c above No. 5 color oils.

Chicago (F.o.b. Chicago District refineries) (Vis. at 100° F.)

Pale Oils, *15 to 30 pour point:			
Vis. Color			
60-85—No. 2	6.50	6.50	6.50
86-110—No. 2	7.00	7.00	7.00
150—No. 3	9.00	10.00	10.00
180—No. 3	10.00	11.25	11.25
200—No. 3	10.50	11.75	11.75
250—No. 3	11.50	13.75	13.75
Red Oils, *15 to 30 Pour Point:			
180—No. 5	9.00	10.25	10.25
200—No. 5	9.50	10.75	10.75
250—No. 5	10.50	12.75	12.75
280—No. 5	11.50	13.25	13.25
300—No. 5	12.00	13.50	13.50

*Oils with 0-10 pour point are quoted at 0.5c higher. To obtain prices delivered in Chicago, add 0.25c per gal.

California (F.o.b. California refineries; Viscosity at 100° F.)

All neutral oils, 11.5c per gal. in tank car lots; and 13.5c in iron bbls., to refiners only, excluding federal tax.

Cylinder Stocks

Mid-Continent (F.o.b. Tulsa basis. Prices represent quotations and sales)

Bright Stocks:			
190-200 Vis. at 210° D	21.00	21.00 –21.50	21.50
150-160 Vis. at 210° D:			
0 to 10 pour test	18.00	18.00 –18.50	18.50
10 to 25 pour test	17.50	17.50 –18.00	18.00
25 to 40 pour test	17.00	17.00 –17.50	17.50
150-160 Vis. at 210° E	17.00	17.00 -17.50	17.50
120 Vis. at 210° D:			
0 to 10 pour test	17.00	17.00 –17.50	17.50
10 to 25 pour test	16.50	16.50 –17.00	17.00
25 to 40 pour test	16.00	16.00 –16.50	16.50
600 Stm. Rfd. Dark Green	5.50 – 6.00	5.50 – 6.00	5.50 – 6.00
600 Stm. Rfd. Olive Green	6.75 – 8.00	6.75 – 8.00	6.75 – 8.00
631 Steam Refined	*13.50	*14.00	*14 00
Black Oil	3.25 – 3.375	3.25 – 3 375	3.25 – 3.375
*Only one refiner quoting.			

Chicago (F.o.b. Chicago district refineries) (Viscosity at 210°)

Unfiltered Steam Refined:			
140	9.00	9.00	9.00
160	10.00	10.00	10.00
200	11.00	11.00	11.00
Bright stocks, 160 vis. at 210 No. 8 color:			
0 to 10 pour point	19.75	20.25	20.25
15 to 25 pour point	19.25	19.75	19.75
30 to 40 pour point	18.75	19.25	19.25
E filtered Cyl. Stock	14.50	14.50	14.50

To obtain prices delivered in Chicago, add 0.25c per gal.

Western Penna. (A.S.T.M. tests; quotations and/or sales prices to car unloaders)

600 stm. rfd. filterable	12.75 –13.00	13.25 –13.50	13.25 –13.50
650 steam refined	14.50 –15.00	14.50 –15.00	14.50 –15.00

(Continued on next page)

REFINERY TANK CAR MARKETS

Prices in cents per gallon, tank car lots, except where otherwise noted. Prices are those to domestic jobbers who resell to consumers. They do not represent inter-refinery sales, or sales for export. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.

Cylinder Stocks (cont'd)

	Oct. 5	Sept. 28	Sept. 21
600 flash	15.50 –16.00	15.50 –16.00	15.50 –16.00
630 flash	17.50 –18.00	17.50 –18.00	17.50 –18.00
600 Warren E.	16.00 –16.50	16.00 –16.50	16.00 –16.50
Bright stock, 145-155 vis. at 210°, 540-550 flash, No. 8 color:			
10 pour test	23.50 –24.00	23.50 –24.00	24.00 –24.50
15 pour test	22.50 –23.00	22.50 –23.00	23.00 –23.50
20 pour test	21.50 –22.00	21.50 –22.00	22.00 –22.50
25 pour test	20.50 –21.00	20.50 –21.00	21.00 –21.50

Petrolatums

Western Penna. (Per pound, in barrels, carload lots, f.o.b. Penna. refinery. In tank cars, 0.5c per pound less. Quotations are from majority of petrolatum makers).

Snow White	6.625	6.625	6.625
Lily White	5.625	5.625	5.625
Cream White	4.625	4.625	4.625
Light Amber	2.75	2.75	2.75
Amber	2.50	2.50	2.50
Red	2.00 – 2.125	2.00 – 2.125	2.00 – 2.125

Wax

	Oct. 5	Sept. 28	Sept. 21
Western Penna. (Per pound, f.o.b. New York)			
122-124 wh. crude scale, A.m.p.	2.40 – 2.45	2.40 – 2.45	2.40 – 2.45
124-126 wh. crude scale, A.m.p.	2.45 – 2.50	2.45 – 2.50	2.45 – 2.50
Oklahoma (Per pound in barrels; in a few instances, perpound in burlap bags; f.o.b. Oklahoma refineries)			
124-126 wh. crude scale, A.m.p.	2.50 – 2.60	2.50 – 2.60	2.50

Chicago (F.o.b. Chicago district refineries, in cents per pound, in bags, carload lots. Melting points are E.M.P. (A.S.T.M.) methods; add 3° F. to convert into A.m.p.)

Fully refined:			
122-124	4.65 – 4.75	4.65 – 4.75	4.65 – 4.75
125-127	4.90 – 5.00	4.90 – 5.00	4.90 – 5.00
127-129	5.05 – 5.15	5.05 – 5.15	5.05 – 5.15
130-132	*5.45 – 5.55	*5.45 – 5.55	*5.45 – 5.55
132-134	*5.70 – 5.80	*5.70 – 5.80	*5.70 – 5.80
135-137	*6.45 – 6.55	*6.45 – 6.55	*6.45 – 6.55

*Same prices quoted in bags or slabs loose.

MID-WESTERN TANK CAR MARKETS

Following prices are in cents per gallon, except where otherwise noted, in tank car lots, representing majority of sales of products made by Chicago sellers, from legally produced crude to jobbers on Group 3 freight basis, although shipments may originate in other South-western or Mid-western refining districts. Prices do not include state or federal taxes.

Gasoline

U. S. Motor gasoline:	Oct. 5	Sept. 28	Sept. 21
62 octane and below	4.375– 4.75	4.375– 4.75	4.375– 4.75
63-67 octane	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
68-70 octane (regular)	5.25 – 5.50	5.25 – 5.50	5.25 – 5.50
60-62, 400 e.p.	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75
64-66, 375 e.p.	5.00 – 5.125	5.00 – 5.125	5.00 – 5.25
68-70, 350-360 e.p.	5.125– 5.25	5.125– 5.25	5.125– 5.375

Kerosine

41-43 w.w.	3.125– 3.25	3.00 – 3.25	3.00 – 3.25
42-44 w.w.	3.25 – 3.50	3.125– 3.50	3.125– 3.50

Fuel *and* Gas Oils

Domestic:			
No. 1 prime white	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25
No. 1 straw	2.875– 3.125	2.875– 3.125	2.875– 3.125
No. 2 straw	2.875– 3.00	2.875– 3.00	2.875– 3.00
No. 2 dark	2.875– 3.00	2.75 – 3.00	2.75 – 3.00
No. 3	2.875	2.75 – 2.875	2.75 – 2.875
No. 4 (per bbl.)	$0.95 –$1.00	$0.95 –$1.00	$0.95 –$1.00
No. 5 (per bbl.)	$0.70 –$0.75	$0.70 –$0.75	$0.70 –$0.75
Industrial:			
No. 4 (per bbl.)	$0.85 –$0.90	$0.85 –$0.90	$0.85 –$0.90
No. 5 (per bbl.)	$0.625–$0.675	$0.625–$0.675	$0.625–$0.675
No. 6 (per bbl.)	$0.55 –$0.60	$0.55 –$0.60	$0.55 –$0.60
U.G.I. gas oil	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625

Naphtha *and* Solvent

Stoddard solvent	6.875	6.875	6.875
V. M. & P. naphtha	7.375	7.375	7.375
Cleaners' naphtha	7.375	7.375	7.375
Mineral spirits	6.375	6.375	6.375
Rubber solvent	7.375	7.375	7.375
Lacquer diluent	8.375	8.375	8.375

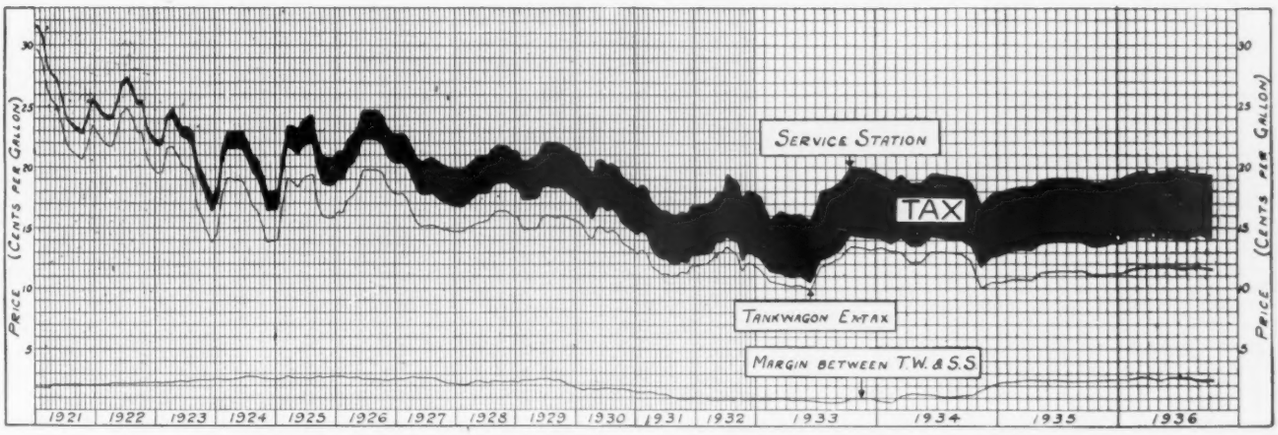
DAILY GASOLINE PRICES

Daily range of gasoline prices (cents per gallon) in tank cars, as reported in PLATT'S OILGRAM, (Week Ended Oct. 2, 1936)

	Sept. 28	Sept. 29	Sept. 30	Oct. 1	Oct. 2
U. S. Motor, 62 octane and below:					
East Texas	4.50 – 4.625	4.50 – 4.625	4.50 – 4.625		.50 – 4.625
*North Texas	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75
West Texas	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75
Oklahoma	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75
Mid-Western (Group 3 basis)	4.375– 4.75	4.375– 4.75	4.375– 4.75	4.375– 4.75	4.375– 4.75
U. S. Motor, 63-67 octane:					
*North Texas	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
West Texas	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
Oklahoma	4.875– 5.375	4.875– 5.375	4.875– 5.375	4.875– 5.375	4.875– 5.375
Mid-Western (Group 3 basis)	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
U. S. Motor, 68-70 octane (regular):					
*North Texas	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75	5.50 – 5.625
West Texas	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75
Oklahoma	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75
Mid-Western (Group 3 basis)	5.25 – 5.50	5.25 – 5.50	5.25 – 5.50	5.25 – 5.50	5.25 – 5.50
Motor Gasoline, 60-64 octane					
New York harbor	6.50	6.50	6.50	6.50	6.50
Philadelphia district	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75
Baltimore district	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75
Motor Gasoline, 65 octane & above					
New York harbor	6.75	6.75	6.75	6.75	6.75
Philadelphia district	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00
Baltimore district	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00
U. S. Motor Gasoline, 58-62°					
Bradford-Warren (Western Penna.)	5.625– 5.75	5.625– 5.75	5.625– 5.75	5.625– 5.75	5.625– 5.75
Other districts (Western Penna.)	5.625– 5.75	5.625– 5.75	5.625– 5.75	5.625– 5.75	5.625– 5.75
Motor Gasoline, Minimum 60 octane					
Bradford-Warren (Western Penna.)	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125
Other districts (Western Penna.)	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125
Motor Gasoline, Minimum 65 octane					
Bradford-Warren (Western Penna.)	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375
Other districts (Western Penna.)	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375

***For shipment to Texas and New Mexico destinations; Group 3 prices are quoted on northern shipments.**

Trend of Gasoline Prices *and* Gasoline Taxes, at 50 Representative Cities



TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect Oct. 5, 1936, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

S. O. New Jersey

Essolene

	Consumer Tank Car	Dealer T.W.	Taxes	Posted S.S.	Kerosine T.W.
Atlantic City, N. J.	7.5	9	4	*	9
Newark, N. J.	7.5	9	4	*	7.5
Annapolis, Md.	8.1	10.1	5	*	10
Baltimore, Md.	7.5	9	5	*	8
Cumberland, Md.	9.1	11.6	5	*	10
Washington, D. C.	7.5	9	3	15.5	9
Danville, Va.	8.7	11.2	6	20.7	12.9
Norfolk, Va.	7.5	10	6	19.5	11.3
Petersburg, Va.	7.8	10.3	6	19.8	11.7
Richmond, Va.	7.8	10.3	6	19.8	11.7
Roanoke, Va.	9	11.5	6	21	12.9
Charleston, W. Va.	8.3	10.8	5	*	12.6
Parkersburg, W. Va.	7.6	10.1	5	*	11.2
Wheeling, W. Va.	8.5	10	5	*	12.2
Charlotte, N. C.	8.9	11.4	7	*	12.6
Hickory, N. C.	9.4	11.9	7	22.4	13
Mt. Airy, N. C.	9.2	11.7	7	*	12.8
Raleigh, N. C.	8.5	11	7	*	12.1
Salisbury, N. C.	9	11.5	7	*	12.7
Charleston, S. C.	7.5	10	7	20.5	11.1
Columbia, S. C.	8.5	11	7	21.5	12.1
Spartanburg, S. C.	9.2	11.7	7	22.2	12.9

*S. O. New Jersey transferred stations to dealers: no prices available.

Price basis to undivided dealers: Dealer t.w. price less 0.5c per gal.

Price basis to commercial consumers: Beginning Feb. 11, 1935, all new commercial consumers will be signed on following differentials over tank car price, on yearly purchases: up to 35,999 gals., 2.5c over t.c.; 36,000 to 119,999 gals., 2c; 120,000 to 239,999 gals., 1.5c; 240,000 to 479,999 gals., 1c; and over 480,000 gals., 0.5c.

Above prices apply only when deliveries are made in lots of 50 or 100 gals. at one time, depending on region in which deliveries are made.

If deliveries are made in less than these minimum quantities, s.s. price at time and place of delivery applies.

Non-contract customers will be billed at 2.5c over tank car price at time and place of delivery.

Kerosine Discount: 1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore City contract not necessary) except no discount in state of New Jersey.

Socony-Vacuum Oil Co., Inc.

(*S. O. New York Division*)

Socony Mobilgas

	"Split" Dealer T.W.	Taxes	Total "Split" Dealer T.W.	†S.S.	Kerosine T.W.
Metropolitan N. Y. City:					
Boroughs of Manhattan, Bronx and Brooklyn (Kings and Queens)	8.7	*4	12.7	...	7.25
Borough of Richmond (Staten Is.)	9	*4	13	...	7.25
Albany, N. Y.	9	4	13	...	7.75
Binghamton, N. Y.	10	4	14	...	9
Buffalo, N. Y.	9.5	4	13.5	...	8.25
Jamestown, N. Y.	10	4	14	...	8.25
Plattsburg, N. Y.	11	4	15	...	8.75
Rochester, N. Y.	9.5	4	13.5	...	8.25
Syracuse, N. Y.	9.5	4	13.5	...	8.75
Danbury, Conn.	9.5	4	13.5	...	8
Hartford, Conn.	9	4	13	...	7
New Haven, Conn.	9	4	13	...	7.5
Bangor, Me.	10.5	5	15.5	...	8
Portland, Me.	10	5	15	...	7.75
Boston, Mass.	9	4	13	...	7.5
Concord, N. H.	10.5	5	15.5	...	8.5
Lancaster, N. H.	11.5	5	16.5	...	9.5
Manchester, N. H.	10.5	5	15.5	...	8
Providence, R. I.	9	3	12	...	7.25
Burlington, Vt.	11.5	5	16.5	...	8.75
Rutland, Vt.	10.5	5	15.5	...	8.5

*Plus 2% city sales tax computed at time of each sale.

†Socony-Vacuum transferred stations to dealers; no prices available.

Discounts to dealers: thru territory, off normal s.s. price, 4c to undivided dealers, and 3.5c to "split" dealers; except Metropolitan N. Y. City, undivided dealers get 5.5c and divided dealers get 5c, effective May 7.

To commercial consumers: Effective Feb. 4, 1935, covering yearly purchases, billed at posted tank car price, plus these differentials: 2.5c for delivery of 1,200 to 36,000 gals.; plus 2c, for 36,000 to 120,000 gals.; plus 1.5c for 120,000 to 240,000 gals.; plus 1c for 240,000 to 480,000 gals.; plus 0.5c for 480,000 gals. and over. Those buying less than 1,200 gals. yearly, get retail s.s. price.

Atlantic Refining

Atlantic White Flash Plus Gasoline

	Total T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Philadelphia, Pa.	11.5	5	16.5	17.5	9.5
Pittsburgh, Pa.	12.5	5	17.5	19.5	9
Allentown, Pa.	11.75	5	16.75	**	9.5
Erie, Pa.	12.5	5	17.5	18.5	8
Scranton, Pa.	11.75	5	16.75	**	10
Altoona, Pa.	12.5	5	17.5	19.5	9.5
Dover, Del.	12	5	17	**	10
Wilmington, Del.	11	5	16	**	9
Boston, Mass.	9	4	13	16.5	7
Springfield, Mass.	9	4	13	16.5	7.5
Worcester, Mass.	10	4	14	17.5	7.75
Fall River, Mass.	9	4	13	16.5	7
Hartford, Conn.	9	4	13	16.5	7
New Haven, Conn.	9	4	13	16.5	7.5

Atlantic Refining—Cont'd

Atlantic White Flash Plus Gasoline

	Total T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Providence, R. I.	9	3	12	15.5	7
Atlantic City, N. J.	10.3	4	14.3	17	9
Camden, N. J.	10	4	14	16.5	8
Trenton, N. J.	10.3	4	14.3	17	8
Annapolis, Md.	10.6	5	15.6	**	9.5
Baltimore, Md.	10	5	15	**	8
Hagerstown, Md.	11.1	5	16.1	**	10
Richmond, Va.	10.3	6	16.3	**	11.7
Wilmington, N. C.	10.1	7	17.1	**	11.3
Brunswick, Ga.	10.5	7	17.5	**	*12.5
Jacksonville, Fla.	10	8	18	**	11.5

*Georgia has kerosine tax of 1c per gal., not included in above price.

**Atlantic Refining transferred stations to dealers; no prices available.

Dealer discounts: on Atlantic White Flash Plus gasoline, thru territory, divided dealers, price equal to 3.5c off posted s.s. price; undivided dealers, price equal to 4c off posted s.s. price; authorized dealers contracts previous to Aug. 19, 1933, price equal to 3c less than posted s.s. price, plus 1c rental.

Price basis to commercial consumer: Effective Oct. 1, 1935, on yearly gasoline purchases based on posted tank car prices plus following amounts: 1,200 to 36,000 gals., 2.5c over t.c.; 36,000 to 120,000 gals., 2c; 120,000 to 240,000 gals., 1.5c; 240,000 to 480,000 gals., 1c; 480,000 gals. and over, 0.5c.

S. O. Ohio

Sohio X-70 Gasoline

	Consumer T.W.	Tax	Total Consumer T.W.		
Ohio Statewide	12.5	5	17.5	‡	*13.5
Counties below statewide gasoline schedule: Ashtabula, Butler, Champaign, Clarke, Clermont, Darke, Fayette, Fairfield, Franklin, Greene, Hamilton, Jefferson, Knox, Licking, Lucas, Madison, Mahoning, Miami, Montgomery, Pickaway, Preble, Ross, Trumbull and Warren:	11.5	5	16.5	...	...
Columbiana and Paulding:	11	5	16	...	...

Renown (Third Grade Gasoline)

Ohio Statewide	12	5	17	‡	...
Counties below statewide gasoline schedule: Butler, Clermont, Darke, Hamilton, Greene, Miami, Montgomery, Preble and Warren:	11.5	5	16.5	...	...
Ashtabula, Champaign, Clarke, Fairfield, Fayette, Franklin, Jefferson, Knox, Licking, Lucas, Madison, Mahoning, Pickaway, Ross, and Trumbull:	11	5	16	...	...
Paulding	9	5	14	...	...
Columbiana	10.5	5	15.5	...	...
Counties above statewide schedule: Hocking and Summit	12.5	5	17.5	...	...

Kerosine Prices
(Off Statewide Level)

‡Kerosine prices are off statewide level in the following counties:

Gallia *13

Above prices include these inspection fees on both gasoline and kerosine, per gallon, figured on basis of 50 gallons per barrel:

Alabama, 1/40c on gasoline, 1/2c on kerosine; Arkansas, 1/5c per gal. in a single barrel, 1/20c per gal. in bulk; Florida, 1/8c; Illinois, 3/100c; Indiana, 1/2c per gal. in a single barrel; 3/10c per gal. in lots of 2 to 10 bbls., 1/5c for 10 to 50 bbls., 2/25c for over 50 bbls.; Kansas, 1/50c, (3/50c can be charged to meet inspection department expenses); Louisiana, 1/32c; Minnesota, 1/25c; Missouri, 3/100c; Nebraska, 3/100c; Nevada, gasoline, 1/20c; North Carolina, 1/4c; North Dakota, 1/20c; Oklahoma, 2/25c per gal., in lots of more than 50 bbls., 1/5c in lots less than 50 bbls.; South Carolina, 1/8c; South Dakota, 1/10c; Tennessee, 2/5c; and Wisconsin, 1/25c.

Kerosine inspection fee only: Iowa, 2/25c; Michigan, 4/5c per gal. for first 2 bbls.; 3/5c for next 3; 2/5c for next 5; 3/10c for next 15, and 1/5c per gal. in lots over 25 bbls.

TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect Oct. 5, 1936, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

S. O. Ohio—Cont'd

Allen, Ashtabula, Auglaize, Champaign, Columbiana, Darke, Fulton, Hancock, Hardin, Henry, Logan, Mahoning, Mercer, Portage, Preble, Putnam, Shelby, Summit, Trumbull, Union, Van Wert and Wyandotte.....*12.5
Defiance and Paulding.....*12

Statewide Prices to Resellers & Agents
(These gasoline prices are based on low of Group 3, 68-70 octane, gasoline tank car market as published in Platt's Oilgram, to the nearest 0.5c).

	†Undivided Accounts	Divided Accounts	**Authorized Agents
Including taxes			
Sohio X-70	16	16.5	16.5
Renown (3rd grade)	15.5	16	16

‡Effective Sept. 16, 1936, S. O. Ohio began leasing service stations to dealers. No statewide s.s. price available although the company does post s.s. prices locally at points where it still operates stations.

Sales tax: Ohio's 3% sales tax, effective Jan. 27, 1935, is added "where assessable, to regular posted prices," S. O. Ohio says.

*Kerosine prices include 1c state tax.
†Excluding authorized agents.
**Excluding 0.5c rental.

Discounts to commercial contract tank wagon consumers only: on all motor gasolines, thru Ohio, effective Sept. 16, 1936, except counties mentioned hereafter, off posted t.w. price, on deliveries per month: 1,000 to 9,999 gals., 1.5c per gal.; 10,000 gals. and over, 2.5c. Under 1,000 gals., posted t.w. price. Single deliveries of less than 25 gals., on X-70 and Ethyl, 2c above consumers, t.w. price; Renown, 1c above. O. D. A. is off statewide schedule in the following counties: Allen, Ashtabula, Auglaize, Columbiana, Darke, Defiance, Franklin, Fulton, Hamilton, Hancock, Hardin, Henry, Jefferson, Logan, Lucas, Mahoning, Medina, Mercer, Putnam, Ross, Shelby, Trumbull, Union, Van Wert and Williams: ' for this information, write National Petroleum News.

Discounts on kerosine: to dealers and commercial consumers, 3c per gal. off t.w. price, any quantity.

S. O. Kentucky

Crown Gasoline

	Total T.W.	Taxes	T.W.	S.S.	Kerosine T.W.
Lexington, Ky	12	6	18	20	11
Louisville, Ky	12	6	18	20	10
Paducah, Ky	11	6	17	17.5	8
Covington, Ky	11.5	6	17.5	19.5	10.5
Jackson, Miss	13	7	20	22	*12.5
Vicksburg, Miss	12.5	7	19.5	**	*13
Birmingham, Ala	13	*8	21	23	12
Mobile, Ala	11	*9	20	21	11
Montgomery, Ala	12	*9	21	22	*14
Macon, Ga	13	7	20	22	*14
Atlanta, Ga	13.5	7	20.5	22.5	*13
Augusta, Ga	11.75	7	18.75	19.5	*13.5
Savannah, Ga	11.5	7	18.5	20.5	*12.5
Jacksonville, Fla	10	8	18	20	11.5
Miami, Fla	11.5	8	19.5	21.5	12.5
Tampa, Fla	10	8	18	20	11.5
Pensacola, Fla	12.5	*9	21.5	23.5	12
Kyso (Third Grade)					
Lexington, Ky	10.5	6	16.5	18	....
Louisville, Ky	10.5	6	16.5	18	....
Paducah, Ky	7.5	6	13.5	14	....
Covington, Ky	10	6	16	17.5	....
Jackson, Miss	11.5	7	18.5	20	....
Vicksburg, Miss	10.75	7	17.75	**	....
Birmingham, Ala	11	*8	19	20	....
Mobile, Ala	8.5	*9	17.5	18	....
Montgomery, Ala	9.5	*9	18.5	19	....
Atlanta, Ga	10.5	7	17.5	18	....
Augusta, Ga	9	7	16	16.5	....
Macon, Ga	10	7	17	17.5	....
Pensacola, Fla	10.75	*9	19 75	21	....

Dealer Discount: off posted s.s. price, on Crown and Crown Ethyl gasolines to "undivided" dealers 4c; on Kyso, 3c. To "divided" dealers: Crown and Ethyl, 3.5c, and Kyso, 2.5c, all effective on or about Jan. 1, 1934.

Discounts to tank wagon consumers: all single deliveries of 50 gals. or less, get posted s.s. price; all single deliveries of 50 gals. or more, to be billed at posted t.w. price, plus following discounts, off posted t.w. price: Ethyl and Crown gasoline, 50 to 2,999 gals. monthly, 1.5c; Kyso, 1c; 3,000 to 24,999 gals., Ethyl and Crown, 2c; Kyso, 1.5c; 25,000 gals. or more, Ethyl and Crown, 3c; and Kyso, 2.5c.

Taxes: in the tax column is included these city and county gasoline taxes at the following points: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Mississippi kerosine prices include 1c state tax. Montgomery kerosine price includes 1c city tax.

**S. O. Kentucky transferred stations to dealers; no prices available.

S. O. Indiana

	Red Crown Tax	Dealer Prices Total T.W.	Red Crown	Stanolind	Kerosine T.W.
Decatur, Ill.	4	15.4	13.9	13.9	9.2
Peoria, Ill.	4	15.4	13.9	13.9	9.2
Quincy, Ill.	4	15.2	13.7	13.7	9.0
Indianapolis, Ind.	*5	17.3	15.8	15.8	‡13
Evansville, Ind.	*5	17.1	15.6	15.6	‡13.7
South Bend, Ind.	*5	17.5	16	16	‡13
Detroit, Mich.	4	15.0	13.5	13.0	8.8
Grand Rapids, Mich.	4	15.4	13.9	13.9	9.3
Saginaw, Mich.	4	15.6	14.1	14.1	10.1
Green Bay, Wis.	5	17.1	15.6	15.6	9.9
Milwaukee, Wis.	5	16.7	15.2	15.2	9.5
La Crosse, Wis.	5	16.8	15.3	15.3	9.6
Minneapolis-St. Paul	4	15.8	14.3	14.3	9.6
Duluth, Minn.	4	16.2	14.7	14.7	10
Mankato, Minn.	4	15.8	14.3	14.3	9.6
Des Moines, Ia.	4	15.2	13.7	13.3	9.0
Sioux City, Ia.	4	15.4	13.9	13.9	9.2
Davenport, Ia.	4	15.4	13.9	13.9	9.2
Mason City, Ia.	4	15.6	14.1	12.4	9.4
St. Louis, Mo.	†4	15.1	13.6	13.6	8.9
Kansas City, Mo.	†4	14.8	13.3	13.3	8
St. Joseph, Mo.	†4	14.8	13.3	13.3	8.6
Fargo, N. D.	4	16.8	15.3	15.3	10.6
Minot, N. D.	4	18.0	16.5	16.5	11.8
Huron, S. D.	*5	17.3	15.8	15.8	10.1
Wichita, Kans.	4	14.3	11.5	10.5	8.0

†St. Louis, Kansas City and St. Joseph prices include 1c city tax. ‡Includes 4c state tax.

*South Dakota gasoline and kerosine prices include 0.1c for sales tax. Indiana t.w. and dealer gasoline prices include 0.2c for chain store tax.

Note: Effective July 1, 1935 in Iowa, and Sept. 11, 1936, in Indiana, Kansas, Michigan, Minnesota, Missouri, South Dakota and Wisconsin, and effective Oct. 1, 1936 in Illinois (except Chicago area) and North Dakota, S. O. Indiana discontinued posting service station prices, posting only a t.w. and a dealer price.

Discount to commercial consumers: Effective Jan. 1, 1935, thru territory, except Michigan effective Feb. 1, on purchases per month, discount off t.w. prices; all gasolines, 25 to 1,000 gals., at t.w. price; 1,000 gals., or more, 1.5c off t.w. on Ethyl and Red Crown, and 0.5c on Stanolind. Minimum delivery is 25 gals. These discounts to commercial consumers also apply in Illinois and North Dakota.

Subnormal Stanolind Points

Normally Stanolind tank wagon prices are 1c under normal Red Crown t.w. prices. Among subnormal points on Stanolind t.w. are these: Detroit, 13.5c; Des Moines, 14.1c; Mason City, 13.9c; Huron, 16c; and Wichita, 11.5c, all including state and federal taxes.

Standard Red Crown Gasoline

	Total T.W.	Taxes	T.W.	S.S.	Kerosine T.W.
Chicago, Ill.	11.4	4	15.4	17.4	9.2
Joliet, Ill.	10.5	4	14.5	17.4	9.2

Discounts to dealers: Effective Dec. 1, 1934, in Illinois, except Chicago, maximum discounts to controlled and uncontrolled undivided gasoline accounts, off s.s. price at normal points: Ethyl and Red Crown gasoline 3.5c; Stanolind 2.5c. In Chicago, effective July 1, 1935, Ethyl and Red Crown, 4c; Stanolind, 3c. Divided gasoline accounts thru territory, get 0.5c less per gallon. In case of lease and agency and AAA accounts, the above discounts include the 0.5c per gal. rental allowance.

S. O. Nebraska

Standard Red Crown Gasoline

Omaha, Neb.	11.8	6	17.8	19.8	9.5
McCook, Neb.	12.5	6	18.5	20.5	10.2
Norfolk, Neb.	12.2	6	18.2	20.2	9.9
North Platte, Neb.	12.6	6	18.6	20.6	10.3
Scottsbluff, Neb.	13.3	6	19.3	21.3	11
Reliance Gasoline (Third Grade)					
Omaha, Neb.	10	6	16	16	....
McCook, Neb.	11.5	6	17.5	18.9	....
Norfolk, Neb.	11.2	6	17.2	19.2	....
North Platte, Neb.	11.6	6	17.6	19.6	....
Scottsbluff, Neb.	12.3	6	18.3	20.3	....

Discount to dealers: where service station gasoline prices are normal, resellers allowance off service station prices are (*Maximum* over-all, including rent) as follows: Reliance 2½c; Standard Red Crown, and Solite with Ethyl, 3½c. Where service station gasoline prices are below normal resellers' allowances are reduced one-half of the amount below normal, down to the following (*Minimum* over-all including rent): Reliance, 2c, Standard Red Crown and Solite with Ethyl, 3c.

Discounts to consumers: for tank wagon deliveries covered only by Standard Commercial Consumer Contract, effective January 1, 1935.

S. O. Louisiana

Essolene

	Consumer Tank Car	Dealer T.W.	Taxes	Posted S.S.	Kerosine T.W.
Little Rock, Ark.	7.5	10	7.5	**	11.5
Alexandria, La.	7.5	10	8	**	*11
Baton Rouge, La.	7	9.5	8	21	*11.5
New Orleans, La.	7	9.5	*10	23	*13
Lake Charles, La.	8	10.5	8	**	*10
Shreveport, La.	6.5	9	8	20.5	*10
Lafayette, La.	8	10.5	8	**	*12.5
Bristol, Tenn.	10	11.25	8	**	14.5
Chattanooga, Tenn.	9.5	12	8	**	11.5
Knoxville, Tenn.	10	12.5	8	24	14
Memphis, Tenn.	8	10.5	8	22	9.5
Nashville, Tenn.	9	11.5	8	23	10

*New Orleans gasoline tax includes 7c state, 1c federal, and 2c parish tax. Louisiana kerosine prices include 1c state tax; in addition New Orleans has 1c parish tax.

**S. O. Louisiana transferred stations to dealers; no prices available.

Price basis to dealers: Undivided dealers get dealer price, less 0.5c.

Price basis to commercial consumers: Effective Feb. 11, 1935, commercial consumers not under contract will be billed at 2.5c per gal. above posted bulk plant tank car price at time and place of delivery in lots of 50 gals. or more at one time. Contract customers will be billed at following differentials over tank car price, on yearly purchases: up to 35,999 gals., 2.5c over tank car price; 36,000 to 119,999 gals., 2c over; 120,000 to 239,999 gals., 1.5c; 240,000 to 479,999 gals., 1c; 480,000 gals. and over, 0.5c.

On single deliveries to all classes of commercial consumers, of less than 50 gals., s.s. price at time and place of delivery applies.

Humble Oil & Refining Co.

Humble Motor Fuel

	*100% Dlr. T.W.	Total Taxes	*100% Dlr. T.W.	S.S.	Kerosine T.W.
Dallas, Tex.	8.5	5	13.5	17	8.5
Ft. Worth, Tex.	8.5	5	13.5	17	8.5
Houston, Tex.	9	5	14	18	8.5
San Antonio, Tex.	9	5	14	18	8.5
U. S. Motor Fuel (Third Grade)					
Dallas, Tex.	7	5	12	14	....
Ft. Worth, Tex.	7	5	12	14	....
Houston, Tex.	8	5	13	16	....
San Antonio, Tex.	8	5	13	16	....

*Price is t.w. price to contract dealers and commercial consumers. Price to open dealers is 0.5c above t.w. prices shown above.

Price basis to dealers: to contract dealers consumer accounts off posted retail price: when posted retail price, including all taxes on Esso motor fuel is: 19.1c per gal. and above discount is 4c; 19c to 18.1c, 3.5c; and 18c and below, 3c. Humble motor fuel, 17.1c and above, 4c; 17 to 16.1c, 3.5c; and 16c and below, 3c; U. S. motor fuel, 15.1c and above, 3c; 15 to 14.1c, 2.5c; and 14c and below, 2c. To "open" dealer accounts, discounts in each case are 0.5c less on the same price basis.

Continental Oil

Conoco Bronze Gasoline

Denver, Colo.	14	5	19	21	11
Grand Junction, Col.	15	5	21.5	23.5	15
Pueblo, Colo.	14	5	19	21	10
Casper, Wyo.	14.5	5	19.5	21.5	11.5
Cheyenne, Wyo.	14.5	5	19.5	21.5	13
Billings, Mont.	16.5	6	22.5	24.5	14.5
Butte, Mont.	15	6	21	23	14.5
Great Falls, Mont.	16.5	6	22.5	24.5	14.5
Helena, Mont.	16.5	6	22.5	24.5	14.5
Salt Lake City, Utah.	16	5	21	23	16
Boise, Ida.	16.5	6	22.5	24.5	18
Twin Falls, Ida.	17	6	23	25	18
Albuquerque, N. M.	12.5	†6.5	19	21	13
Roswell, N. M.	13.5	†6.5	20	22	10
Santa Fe, N. M.	14.5	*7	21.5	23.5	12
Ft. Smith, Ark.	9.5	5	14.5	**	8
Little Rock, Ark.	9.5	7.5	17	**	9.5
Texarkana, Ark.	9.5	5	14.5	18.5	8.5

TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect Oct 5, 1936, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

Continental Oil—Cont'd

Demand (Third Grade)

	T.W.	Tax	Total T.W.	S.S.	Kerosine T.W.
Denver, Colo.	12	5	17	19	...
Cheyenne, Wyo.	12.5	5	17.5	19.5	...
Helena, Mont.	14.5	6	20.5	22.5	...
Salt Lake City, Utah.	12	5	17	19	...
Boise, Ida.	14.5	6	20.5	22.5	...
Albuquerque, N. M.	10.5	†6.5	17	19	...
Roswell, N. M.	9	†6.5	15.5	17.5	...
Santa Fe, N. M.	10	*7	17	19	...
Ft. Smith, Ark.	8.75	5	13.75	**	....
Little Rock, Ark.	8.75	7.5	16.25	**	....
Texarkana, Ark.	7	5	12	14	....

†Includes city tax of 0.5c.
*Includes 1c city tax.
**Continental Oil transferred stations to dealers: no prices available.

Discounts: effective March 1, 1934, on gasolines thru territory, off normal s.s. price, except Montana, to "undivided" dealers: Ethyl and Conoco Bronze, 4c; Demand, 3c; except Arkansas, 3.25c. To "divided" dealers thru territory: Ethyl and Conoco Bronze, 3.5c; Demand, 2.5c, except Utah and Idaho where full 100% or undivided dealer discount is applied to divided dealers also; thru Montana, effective March 24, 1936, on gasoline, off t.w. price to "undivided" dealers: Ethyl and Conoco Bronze, 2c; Demand, 1c; to "divided" dealers: Ethyl and Conoco Bronze, 1.5c; Demand 0.5c. In Arkansas, all dealer discounts are reduced by one-half the difference between the normal s.s. and the posted price, when such posted prices are subnormal.

OKLAHOMA

	Dealer Tax	T.W. Conoco Bronze	Prices Demand	Kerosine T.W.
Muskogee	5	14	13	8
Oklahoma City	5	14	13	8
Tulsa	5	14	10	8

S. O. California

Standard Gasoline

San Francisco, Cal.	13	4	17	18	11.5
Los Angeles, Cal.	12.5	4	16.5	17.5	9
Fresno, Cal.	13.5	4	17.5	18.5	11
Phoenix, Ariz.	15	6	21	22	†16
Reno, Nev.	14.5	5	19.5	20.5	13
Portland, Ore.	13.5	6	19.5	20.5	13.5
Seattle, Wash.	13.5	6	19.5	20.5	13.5
Spokane, Wash.	16.5	6	22.5	23.5	16.5
Tacoma, Wash.	13.5	6	19.5	20.5	13.5

Flight Gasoline (Third Grade)

San Francisco, Cal.	11.5	4	15.5	16.5	...
Los Angeles, Cal.	11	4	15	16	...
Fresno, Cal.	12	4	16	17	....
Reno, Nev.	13	5	18	19	....
Phoenix, Ariz.	13.5	6	19.5	20.5	....
Portland, Ore.	12	6	18	19	....
Seattle, Wash.	12	6	18	19	....
Spokane, Wash.	15	6	21	22	....
Tacoma, Wash.	12	6	18	19	....

†Includes 5c state tax.

Discount to dealers: on gasoline, off t.w. price on Standard Ethyl and Standard Gasoline, to 100% dealers, 3c; to split dealers, 2c; on Flight gasoline, both 100% and split dealers, 2c.

On Stanavo Aviation Gasoline, to all classes of dealers, 3c off t.w.

To commercial consumers: off tank wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery on Stanavo Aviation, Standard Ethyl and Standard Gasolines, 3c. Flight Gasoline 2c per gallon. S.s. schedule applies on single deliveries less than 40 gallons.

On kerosine in tank car, transport truck and trailer delivery, 3c off t.w. price; plant deliveries to jobbers, 2.5c below t.w.

Canada

Prices of Imperial Oil Ltd.

Per Imperial Gallon, which is 1.2 U. S. Gallons

Three Star Imperial Gasoline

Hamilton, Ont.	15	6	21	23.5	17
Toronto, Ont.	15	6	21	23.5	17
Brandon, Man.	22.8	7	29.8	32.8	22.3
Winnipeg, Man.	21.2	7	28.2	31.2	20.7
Regina, Sask.	22.5	7	29.5	32.5	22
Saskatoon, Sask.	25.3	7	32.3	35.3	24.8
Edmonton, Alta.	23.5	7	30.5	33.5	24.2
Calgary, Alta.	21	7	28	31	21.5
Vancouver, B. C.	15	7	22	26	23
Montreal, Que.	12.5	6	18.5	*	17.5
St. John, N. B.	16	8	24	28	18.5
Halifax, N. S.	16	8	24	28	18.5

*Imperial Oil Ltd. transferred stations to dealers; no prices available.

Discounts to dealers: off s.s. prices:

Maritime Provinces, 4c to all classes of dealers. Quebec, except Montreal City, Prairie Provinces and British Columbia, except Vancouver, 3c to divided dealers, 4c to undivided dealers. Ontario and Montreal City, 2½c to divided dealers, 3½c to undivided dealers. Vancouver, 5c to undivided dealers, 4c to divided, off t.w. price 1c to undivided dealers.

Aviation Gasoline

Following are tank car and/or tank wagon prices of aviation gasoline in principal marketing territories (Stanavo aviation in all territories except Continental Oil.) Tax column includes 1c federal tax, and state tax; also municipal taxes as indicated in footnotes.

In Effect Oct. 5, 1936

S. O. New Jersey

	Tank Car	T.W.
Bayonne, N. J.	10	12
Baltimore, Md.	10	12
Washington, D. C.		12.6
Richmond, Va.		14.2
Greensboro, N. C.		14.7
Raleigh, N. C.		16.6
Charleston, W. Va.		14.2

Colonial Beacon Oil Co.

	T.W.
Brooklyn, N. Y.	12.8
Buffalo, N. Y.	14.1
Boston, Mass.	14.5

S. O. Pennsylvnia

Philadelphia, Pa.	13.1
Pittsburgh, Pa.	13.9

S. O. Louisiana

New Orleans, La.	12.3
Shreveport, La.	12.6

Prices in above four territories do not include state or federal taxes. They are for 74 octane grade aviation gasoline. An 80 octane product generally brings 0.5c premium and an 87 octane product, 1.5c premium over the 74 octane grade.

Note: S.s. prices in above four territories are generally 6c over t.w prices. Above t.w. prices are net, with no discounts allowed for quantity purchases. T.w. prices are generally tank car price, plus freight, plus 2.5c per gal.

S. O. Ohio

Thru Ohio

	Consumer T.W.	Tax	Total Consumer T.W.
Stanavo Ethyl Aviation:			
73 octane	15.5	5	20.5
80 octane	16.5	5	21.5
87 octane	17.5	5	22.5

Discounts: For delivery on contract to hangar operators and resellers: 2c below commercial consumer posted t.w. price.

S. O. Indiana

Chicago, Ill.	14.4	4	18.4
Indianapolis, Ind.	15.3	5	20.3
Detroit, Mich.	15.9	4	19.9
Milwaukee, Wisc.	14.7	5	19.7
Minneapolis, Minn.	14.8	4	18.8
St. Louis, Mo.	13.1	*4	17.1
Kansas City, Mo.	13.8	*4	17.8
Fargo, N. D.	15.8	4	19.8
Huron, S. D.	15.3	5	20.3
Wichita, Kans.	13.3	4	17.3

*Includes 1c city tax.
**Includes 0.1c to cover sales tax.

Humble Oil & Refining Co.

	Tank Car
Baytown, Tex. (exclusive of taxes)	8.5

Continental Oil Co.

	T.W.	Tax	Total T.W.
Denver, Colo.	17	5	22
Cheyenne, Wyo.	17.5	5	22.5
Helena, Mont.	19.5	6	25.5
Salt Lake City, Utah.	19	5	24
Albuquerque, N. M.	15.5	*6.5	22

*Includes city tax of 0.5c.

S. O. California

Phoenix, Ariz.	17	6	23
Los Angeles, Cal.	14.5	4	18.5
San Francisco, Cal.	15	4	19
Reno, Nev.	16.5	5	21.5
Portland, Ore.	15.5	6	21.5
Seattle, Wash.	15.5	6	21.5
Spokane, Wash.	18.5	6	24.5

Note: For discounts, etc., see note under Standard and Flight gasoline above.

Naphtha (In Tank Wagon)

In Effect *Oct. 5*, 1936

(Net price in Tank Wagon; in Cents per Gallon)

S. O. New Jersey

	Mineral Spirits	V.M.&P. Naphtha
Baltimore, Md.	14	15.5
Newark, N. J.	12.5	14.5
Washington, D. C.	14	**17.5

**Steel bbls. only.

Socony-Vacuum Oil Co.

Buffalo, N. Y.	11.5	12.5
New York City	10.5	11.5
Rochester, N. Y.	12	....
Syracuse, N. Y.	14	....
Boston, Mass.	13	13.5
Bridgeport, Conn.	13	13.5
Providence, R. I.	13	14

2c off above t.w. prices in above two territories to large buyers in some instances.

Atlantic Refining Co.

Philadelphia, Pa.	11.5	12.5
Lancaster, Pa.	13	14
Pittsburgh, Pa.	12.5	14.5

Note: Prices for Mineral Spirits also apply to Stoddard Solvent; and prices for V. M. & P. Naphtha apply also to Light Cleaners Naphtha.

S. O. Ohio

	S. R. Solvent	V.M.&P. Naphtha
Thru Ohio	13.25	13.75

Note: V.M.&P. Naphtha prices also apply on Dry Cleaners naphtha and special Varnolene; Varnolene and Sohio Solvent 0.5c below these prices. Discounts to contract consumers, off t.w price: 300 to 999 gals., 0.5c; 1,000 to 2,499 gals., 0.75c; 2,500 to 4,999 gals., 1c; 5,000 or more gals. 1.5c.

S. O. Indiana

	Oleum Spirits	V.M.&P. Naphtha	Stanisol
Chicago, Ill.	16.2	16.5	15
Detroit, Mich.	17.9	19	18
Kansas City, Mo.	13.3	14.3	13.3
St. Louis, Mo.	13.6	14.6	12.5
Milwaukee, Wis.	18.2	19.2	18.2
Minneapolis, Minn.	17.3	18.3	16.4

Note: Prices for V.M&P. apply also to Light Cleaners Naphtha. All prices, with exception of Missouri points, include state tax. Prices shown are base prices, before discounts.

Naphtha (In Tank Cars)

In Tank Cars (F.o.b. refinery or seaboard terminal except Ohio, delivered price.)

	V.M.&P. Naphtha	Solvent
Baltimore	10	9.5
New York Harbor	10	9
Philadelphia district	10	9.5
Providence	10	9.5
Ohio points, delivered	9.25	*8.75

*This is on S.R. solvent.

Note: In Ohio, prices on D.C. naphtha and special Varnolene are same as V.M.&P.; on Varnolene and Sohio Solvent, prices are 0.5c less than on V.M.&P.

Latest Changes

From Sept. 29 to Oct. 5 inclusive. Dates and amounts of changes shown. See table for full current prices. Changes are on gasoline unless kerosine is indicated.

Atlantic Refining—White Flash Plus:

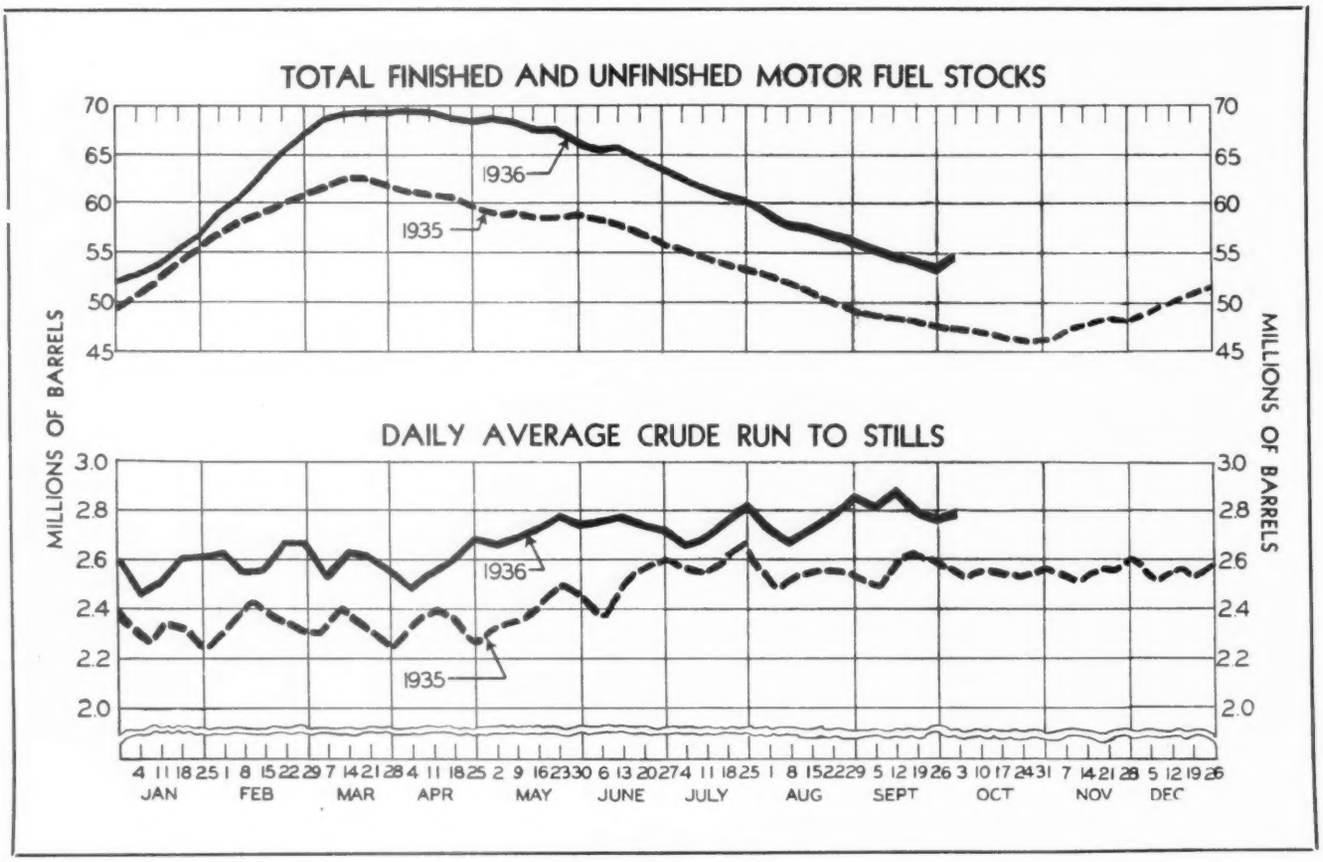
Wilmington, Del. t.w. cut 1c, Sept. 30.

S. O. Ohio—X-70 and Renown:

Through Columbiana county, t.w. cut 0.5c, Sept. 30.

(*Continued on page 73*)

U. S. Crude Runs and Gasoline Stocks as Reported Weekly by A. P. I.


TOTAL FINISHED AND UNFINISHED MOTOR FUEL STOCKS
MILLIONS OF BARRELS
70
65
60
55
50
45
1936
1935
DAILY AVERAGE CRUDE RUN TO STILLS
3.0
2.8
2.6
2.4
2.2
2.0
4 11 18 25 1 8 15 22 29 7 14 21 28 4 11 18 25 2 9 16 23 30 6 13 20 27 4 11 18 25 1 8 15 22 29 5 12 19 26 3 10 17 24 31 7 14 21 28 5 12 19 26
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

Motor Fuel Stocks Rise 1,138,000 Barrels

NEW YORK, Oct. 6

An 11,000-barrel increase in crude runs to refinery stills and an increase of 1,138,000 barrels in stocks of motor fuel were the highlights of refinery operations the week ended Oct. 3, according to the American Petroleum Institute, based on 89.8 per cent of the country's refining plants, operating at 78.7 per cent capacity the past week.

Crude runs to stills were lowered in all but three districts. East Coast plants cut down runs 21,000 barrels and Louisiana Gulf cut down 16,000 barrels. Reductions of 4000 barrels and less were reported at plants in other districts. The districts indicating increases were Indiana-Illinois-Kentucky, 15,000 barrels; California, 40,000 barrels; and Texas Gulf 4000 barrels.

Stocks of motor fuel, which had declined 814,000 barrels the week ended Sept. 26, increased to 54,532,000 barrels the past week. The largest increases were in the East Coast, Texas Gulf and California districts, each reporting increases of over 300,000 barrels. Stocks at East Coast plants were 373,000 barrels higher; at Texas Gulf, 310,000 barrels higher and in California 372,000 barrels higher. Four districts reported declines in stocks, the largest being 81,000 barrels, in Indiana-Illinois-Kentucky.

Motor fuel stocks at refineries were 29,160,000 barrels; at bulk terminals and in pipelines, 19,362,000 barrels; and stocks of unfinished gasoline were 6,010,000 barrels.

CURRENT REFINERY OPERATIONS

Districts	Per Cent Capacity Reporting	Daily Average Crude to Stills (Barrels) Week Ended		Per Cent of Reporting Capacity Operated Week Ended		Stocks (Thousands of Barrels) Total Finished and Unfinished Motor Fuel*		Total Finished Gas & Fuel Oil		Cracked Gasoline Production % Total Capacity Reporting	Daily Av. Production (Barrels) Week Ended	
		Oct. 3	Sept. 26	Oct. 3	Sept. 26	Oct. 3	Sept. 26	Oct. 3	Sept. 26		Oct. 3	Sept. 26
East Coast	100.0	513,000	534,000	83.8	87.3	16,130	15,757	12,463	12,436	100.0	118,000	118,000
Appalachian	94.8	103,000	107,000	70.5	73.3	2,041	2,075	627	638	98.7	27,000	26,000
Ind., Ill., Ky.	96.1	434,000	419,000	97.7	94.4	8,184	8,265	6,445	6,444	99.7	125,000	133,000
Okla., Kans., Mo.	84.8	278,000	281,000	72.4	73.2	5,542	5,469	3,541	3,550	89.1	75,000	72,000
Inland Texas	48.5	117,000	119,000	73.1	74.4	1,384	1,296	1,718	1,700	70.9	31,000	31,000
Texas Gulf	97.0	622,000	618,000	87.6	87.0	6,924	6,614	8,646	8,488	78.5	161,000	146,000
La. Gulf	96.4	115,000	131,000	70.6	80.4	1,555	1,505	2,369	2,285	96.1	23,000	31,000
No. La., Ark.	90.0	43,000	44,000	59.7	61.1	277	282	359	367	95.7	10,000	9,000
Rocky Mt.	61.9	45,000	46,000	75.0	76.7	759	767	772	802	84.8	11,000	11,000
California	92.6	515,000	475,000	65.3	60.2	11,736	11,364	73,462	73,484	100.0	72,000	74,000
Total Reporting	89.8	2,785,000	2,774,000	78.7	78.4	54,532	53,394	110,402	110,194	95.9	653,000	651,000
Estimated U. S. Total (Bur. of Mines Basis.)		3,000,000	2,900,000			57,610	56,472	112,712	112,504		690,000	690,000

*Includes stocks at refineries, in bulk terminals, pipe lines and in transit.

HEAVY FUEL UP 5 CENTS

At Seaboard

A 5-CENT advance in heavy oil prices along the eastern seaboard and advances up to 0.25 cent on light oils at New York harbor featured fuel oil markets the week ended Oct. 3. Cooler weather in many areas stimulated demand and prices in other districts were pointing higher.

Independent suppliers took the lead in advancing the light fuel prices at New York harbor while Standard of New Jersey started the advance in bunkering prices and on the Nos. 5 and 6 oils. Virtually all suppliers met the advances.

While higher prices were not generally established in other districts, some suppliers were asking and getting them. Offerings were well held and buyers generally were not as hesitant to pay current prices as they were during September.

* * *

NEW YORK, Oct. 3.—Fuel oil markets along the eastern seaboard were much more buoyant the past week. New York harbor prices for the lignt fuels were up 0.125 to 0.25 cent. Heavy oils were up 5 cents a barrei all along the seaboard.

Demand for the light fuels continued to pick up in the northern seaboard areas as cooler weather set in. Buyers were gradually increasing their takings in anticipation of colder weather, suppliers said. The majority of the larger distributors have already made their commitments, they said, and from now on trading will probably be confined to the smal-lot buyers.

Independent suppliers took the lead in advancing prices for the light fuels early in the week. Prices for the Nos. 1 to 4 oils were up 0.125 to 0.25 cent for barge lots and tank car lots, respectively, at New York harbor.

Standard of New Jersey announced a 5-cent advance in bunkering prices and also in quotations for the Nos. 5 and 6 oils, effective Oct. 1, which was quickly met by the majority of majors and independent suppliers. The advance in bunker prices had been quite generally expected among the trade. The market has been exceptionally tight from a supply standpoint for many weeks.

Some improvement was noted in the Philadelphia retail market for light fuels. About two weeks ago practically all distributors, large and small, reduced prices 0.5 cent a gallon. Several distributors advanced their postings 0.75 cent the past week but up to the end of the week their advance had not been met by some of the larger operators.

* * *

TULSA, Oct. 3.—As evidence that the heating oil season is on, Mid-Continent refiners reported the past week that shipments had increased considerably. Several suppliers, however, said that most shipments were made against contracts but open market movement of light fuel oils also showed some increase.

There still was hesitancy on the part of some buyers to buy anything more than their immediate needs at current prices. Despite this reluctancy, Nos. 1, 2 and 3 oils were closely held. Higher prices were asked by some suppliers and obtained in many cases.

Industrial users of Mid-Continent heavy fuel oil were seeking additional supplies, according to reports. Industrial demand coupled with shipments to railroads have kept supplies cleaned up.

Little change was noted in cracking stocks.

* * *

CHICAGO, Oct. 3.—Colder weather the week ended Oct. 3 provided the stimulus needed to bring buyers into the Mid-Western fuel oil market. With demand more active several sellers announced price advances and quotations were tending higher in all quarters as the week ended.

Several resellers unsuccessfully scoured refinery markets for supplies of light fuel to apply on previously made "short" sales.

Demand for heavy fuel oils from industrial users was constant all week. Supplies of the heavy oils were in good balance with takings, and steady price structures resulted.

FUEL OILS

Following are tank wagon prices of various grades of heating oil at the points shown in various territories. Prices are in cents per gallon.

Prices in Effect Oct. 5, 1936

	No. 1	No. 2	No. 3	No. 4
S. O. New Jersey				
Newark, N. J.	7.25	6.50	6.50	6.50
Atlantic City, N. J.	8	6.5	6.5	6
Baltimore, Md.	8	6	6	5.5
Washington, D. C.	8.00	6.75	6.75	6.75

Discounts: At Newark and Atlantic City, purchasers taking 50,000 gals. get discount of 0.5c per gal.

Socony-Vacuum Oil Co., Inc. (S. O. New York Division)				
New York City	7	6.50	6.50	6.00
Albany, N. Y.	7.75	6.50	6.50	6.25
Rochester, N. Y.	8.25	7.00	7.00	7.00
Boston, Mass.	7	6.25	6.25	6.25
Bangor, Me.	8	6.50	6.50	6.50
Manchester, N. H.	8	7.00	7.00	7.00
Burlington, Vt.	8.75	7.00	7.00	7.00
New Haven, Conn.	7.5	6.25	6.25	6.25
Providence, R. I.	7.00	6.50	6.50	6.00

Discounts: At New York City, consumers taking 10,000 to 50,000 gals., get 0.25c per gal. discount when minimum amount has been reached; above 50,000 gals., 0.5c.

Atlantic Refining				
Philadelphia, Pa.	6.75	5.50	5.50	5.00
Allentown, Pa.	7.75	6.50	6.50	6.50
Wilmington, Del.	7.25	6.00	6.00	5.50
Springfield, Mass.	7.50	6.00	....	6.00
Worcester, Mass.	7.75	6.75	....	6.75
Hartford, Conn.	7.00	6.50	....	6.50
S. O. Ohio				
*Ohio Statewide	8	7.50	7	6.75

Note: S. O. Ohio prices are for hose dumps; bucket dumps are 0.5c per gallon higher.

Except Cleveland Division and City of Toledo. In Cleveland Division (Cuyahoga, Lake and Geauga counties), No. 1 price is same as statewide; Nos. 2, 3 and 4 are 0.5c higher; No. 5 is priced 0.25c lower than No. 4. In Toledo No. 2 is 0.5c lower than statewide, others same.

S. O. Indiana

Stanolex Fuel and Furnace Oils

	No. 1 Fuel	Stanolex Furnace
Chicago	6.75	6.75
Indianapolis	....	*11.7
Detroit	6.8	6.8
Milwaukee	8	7.3
Minneapolis	7	7
Sioux City	7.8	7.1
St. Louis	7.5	6.8
Kansas City	7.2	6.5

*Includes state tax of 4c.

Note: Small-lot deliveries of light fuel oils range up to 2c higher than above quotations.

Decision Soon in Truck Law Case in Carolina

WASHINGTON, Oct. 5.—A decision in the truckers' suit to invalidate the South Carolina law setting sizes and weights of trucks, insofar as it applies to interstate trucks, is expected to be handed down before the end of October by Judge Glenn of the Federal court for the eastern district of South Carolina.

The decision, however, will only mark the end of the first round. No matter which party wins, the case probably will go to the U. S. Supreme Court.

In arguing the case, the plaintiffs contended, according to J. N. Beall, counsel for the American Trucking Association, that the South Carolina law was "arbitrary, capricious and unreasonable." The federal government by enactment of the Motor Carrier Law superseded jurisdiction of the states in the matter of regulating interstate motor carriers, it was contended.

In reply, the state highway department and other defending officials contended that the Motor Carrier Act does not purport to regulate truck sizes and weights. Judge Glenn has taken the case under advisement.

Interstate truckers for several years have protested against the stringent regulations of the South Carolina truck law (See N.P.N., Sept. 2, 1936, Page 19 for explanation of the case).

Final outcome of the suit is awaited with interest by all persons operating trucks because it may bring about the overthrow of the Motor Carrier Act or else deprive the states of jurisdiction over trucks from other states.

SEABOARD MARKETS, EXPORT AND COASTWISE

Prices do not include Federal tax. Where $ mark is shown, prices are per barrel of 42 U. S. gallons

Eastern Domestic

(Prices in cents per gallon tank car lots, unless otherwise noted, f.o.b. refinery or seaboard terminal, representing majority of sales and quotations to jobbers and/or consumers. Florida and S. Carolina inspection tax not included.)

*Motor Gasoline

Prices Oct. 5	60-64 Octane	65 Octane and Above
New York harbor	6.50	6.75
New York harbor, barges	†6.25	6.25 – 6.50
Philadelphia district	6.50 – 6.75	6.75 – 7.00
Baltimore district	6.50 – 6.75	6.75 – 7.00
Norfolk district	6.50 – 6.75	7.00
Wilmington, N. C. district	6.75	7.00
Charleston, S. C. district	6.75	7.00
Savannah district	6.75	7.00 – 7.25
Jacksonville district	6.75	7.00 – 7.25
Portland district	7.25	7.50
Boston district	6.75	7.00
Boston district, barges	6.50	6.75
Providence district	6.75	7.00
Providence district, barges	6.50	6.75

*Due to lack of companies offering U. S. Motor gasoline, 59 octane and below in the open market, prices for this grade are discontinued. Quotations nominally are 0.25c below those for 60-64 octane grade.

†Nominal.

Water White Kerosine

Prices Oct. 5			
New York harbor	4.50 – 4.625	Savannah district	5.25
N. Y. harbor, barges	4.375– 4.50	Jacksonville district	5.25
Philadelphia district	4.50 – 4.75	Portland district	5.125
Baltimore district	4.625	Boston district	4.625
Norfolk district	4.625	Boston dist., barges	4.50
Wilmington, N. C.	4.625	Providence district	4.625
Charleston, S. C. dist.	4.625	Providence, barges	4.50

*Fuel Oils

Prices Oct. 5	New York harbor	New York harbor, barges	Philadelphia district
No. 1	4.50 – 4.625	4.375– 4.50	4.50 – 4.75
No. 2	4.25 – 4.375	4.125– 4.25	4.25
No. 3	4.25 – 4.375	4.125– 4.25	4.25
No. 4	3.75 – 4.00	3.625– 3.875	3.75 – 4.00
No. 5 (per barrel)	$1.35	.....	$1.35
No. 6 (per barrel)	$1.15	.....	$1.15

	Baltimore district	Boston district
No. 1	4.625	4.625
No. 2	4.25	4.25
No. 3	4.25	4.25
No. 4	3.75 – 4.00	4.25
No. 5 (per barrel)	$1.35	$1.45
No. 6 (per barrel)	$1.15	$1.15

	Boston dist., barges	Providence district	Providence dist., barges
No. 1	4.50	4.625	4.50
No. 2	4.125	4.25	4.125
No. 3	4.125	4.25	4.125
No. 4	4.125	3.75 – 4.00	3.625

*Fuel oils meet specifications of U. S. Commercial Standards CS12-35.

	Bunker Oil Grade C Per Barrel	Diesel Oil Ships' Bunkers Per Barrel	Gas Oil 28-34 Gravity Per gallon	Diesel Oil Shore Plants Per gallon
New York harbor	*$1.15	*$1.65	4.25	4.25
Philadelphia dist.	*$1.15	*$1.65	4.25	....
Baltimore district	*$1.15	*$1.65	4.25	....
Norfolk district	*$1.15	*$1.785	4.25	....
Charleston district	$1.10	$1.65	....	....
Savannah district	$1.10	$1.89	....	4.75
Jacksonville dist.	$1.10	$1.995	....	4.75
Tampa district	$1.10	$1.995	....	....
Portland district	$1.25	$1.75	....	....
Boston district	$1.15	*$1.65	....	....
Providence district	$1.15	$1.65	....	....

*Lighterage for bunker oil, 5c per bbl. additional; for Diesel oil, 6.5c per bbl. additional.

Pacific Export

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

Prices—	Oct. 5	Sept. 28	Sept. 21
53-55 U. S. Motor	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
400 e.p. blend 65 Octane and above	5.25 – 5.75	5.25 – 5.75	5.25 – 5.75
38-40 w.w. kerosine, 150 fire point	4.00 – 5.00	4.00 – 5.00	4.00 – 5.00
41-43 w.w. kerosine	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
44 water white kerosine	5.00	5.00	5.00
Prime wh. kerosine	3.25 – 4.25	3.25 – 4.25	3.25 – 4.25
In Cargo lots, per barrel			
Diesel fuel oil, above 23.9°	$1.05 –$1.25	$1.05 –$1.25	$1.05 –$1.25
Diesel fuel oil, under 23.9°	$1.00 –$1.10	$1.00 –$1.10	$1.00 –$1.10
30-34 gas oil	$0.95 –$1.10	$0.95 –$1.10	$0.95 –$1.10
Grade C fuel oil	$0.75 –$0.90	$0.75 –$0.90	$0.75 –$0.90

Pacific Export (cont'd)	Oct. 5	Sept. 28	Sept. 21
In Ships' Bunkers, or deep tank lots, per barrel:			
Diesel fuel oil, above 23.9 gravity	$1.15 –$1.25	$1.15 –$1.25	$1.15 –$1.25
Diesel, under 23.9 gravity	$1.05 –$1.15	$1.05 –$1.15	$1.05 –$1.15
Grade C fuel oil	$0.90 –$1.10	$0.90 –$1.00	$0.90 –$1.00
Cased Goods:			
Gasoline, U. S. Motor	$1.30 –$1.50	$1.30 –$1.50	$1.30 –$1.50
Gasoline, 400 e.p. blend	$1.45 –$1.65	$1.45 –$1.65	$1.45 –$1.65
38-40 w.w. kerosine, 150 fire point	$1.20 –$1.30	$1.20 –$1.30	$1.20 –$1.30
Kerosine, prime white	$1.15 –$1.25	$1.15 –$1.25	$1.15 –$1.25

New York Export

(Prices in cents per gallon in barrels, F.a.s. New York)

Cylinder Oils (Pennsylvania Products)

Bright stock:			
Light, 25 pour point	28.00	28.00	28.00
Dark, 25 pour point	27.50	27.50	27.50
Neutral oil:			
200 3 color, 25 pour point	27.50	27.50	27.50
150 3 color, 25 pour point	24.00	24.00	24.00
600 Warren E filtered,	22.50 –23.00	22.50 –23.00	22.50 –23.00
600 atm. rfd., unfiltered	20.00 –20.50	20.00 –20.50	20.00 –20.50
650 atm. rfd. unfiltered	21.50	21.50	21.50
600 flash, steam refined	22.50	22.50	22.50
630 flash, steam refined	24.50	24.50	24.50

Wax Domestic *and* Export

(Prices in cents per pound. Tests made by A. S. T. M. methods. Melting points shown below, however, are A. M. P., 3° higher than A. S. T. M. (E. M. P.) melting points. Export prices are f.a.s. carload lots. Domestic prices are f.o.b. refineries in New York and New Orleans districts, in bags, carload lots, with 0.2c discount allowed for shipment in bulk.)

	New York		New Orleans	
Prices—Oct. 5	*Domestic*	*Export*	*Domestic*	*Export*
124-6 Y.C. scale	2.40 – 2.45	2.40 – 2.45	2.40 – 2.45	2.40 – 2.45
122-4 W.C. scale	2.40 – 2.45	2.40 – 2.45	2.40 – 2.45	2.40 – 2.45
124-6 W.C. scale	2.45 – 2.50	2.45 – 2.50	2.45 – 2.50	2.45 – 2.50
123-5 Fully refined	4.45	4.125	4.45	4.125
125-7 Fully refined	4.55	4.25	4.55	4.25
128-30 Fully refined	4.80	4.50	4.80	4.50
130-2 Fully refined	5.05	4.75	5.05	4.75
133-5 Fully refined	*5.35	5.25	*5.35	5.25
135-7 Fully refined	*5.60	5.50	....	....

*Shipment either in bags or in bulk.

Gulf Coast

(Prices are f.o.b. ship at Gulf oil terminals representing traders' opinions except prices specified to the contrary. Prices cover bulk shipments of 20,000 barrels or more, unless otherwise noted.)

Motor Gasoline

For Domestic Shipment

Prices—	Oct. 5	Sept. 28	Sept. 21
59 octane and below	5.50	5.50	5.50
60-64 octane number	5.875	5.875	5.875
65 octane and above	6.00	6.00	6.00

Fuel Oils

No. 1 Fuel oil	3.75 – 3.875	3.75 – 3.875	3.625– 3.75
No. 2 Fuel oil	3.375	3.375	3.25
No. 4 Fuel oil	3.125– 3.25	3.125– 3.25	3.125

Kerosine

41-43 w.w.	3.75 – 3.875	3.75 – 3.875	3.625– 3.75

Gasoline

For Export Shipment

U. S. Motor gasoline	5.125	5.125	5.125
60-62, 400 e.p. gasoline	5.25	5.25	5.25
61-63, 390 e.p. gasoline	5.375	5.375	5.375
64-66, 375 e.p. gasoline	5.50	5.50	5.375

Kerosine

44 water white	4.125	4.125	4.125
41-43 water white	3.75	3.75	3.625– 3.75
41-43 prime white	3.625– 3.75	3.625– 3.75	3.625– 3.75

(Continued on next page)

SEABOARD MARKETS, EXPORT AND COASTWISE

Prices do not include Federal tax. Where $ mark is shown, prices are per barrel of 42 U. S. gallons

(*Continued from preceding page*)

Gas and Bunker Oils

For Domestic and/or Export Shipment

Prices—	Oct. 5	Sept. 28	Sept. 21
*26-30 translucent gas oil	3.125- 3.25	3.125- 3.25	3.125
*30 plus translucent gas oil	3.125- 3.25	3.125- 3.25	3.125
*30 plus transp. gas oil	3.25	3.25	3.125- 3.25
Diesel Oil Ships' bunkers	$1.50	$1.50	$1.50
Grade C bunker oil, for ships' bunkers, per bbl.	†$0.95	†$0.90	†$0.90
Grade C bunker oil, per bbl. in cargoes	‡$0.90	‡$0.875-$0.90	‡$0.87

*Less than ½ of 1% sulphur. †Lighterage 5c per bbl. additional. ‡Nominal.

Mexican Crude and Bunker Oils

(F.o.b. Steamer, Tampico)

Heavy Panuco crude taxes to be paid, per bbl.	*$0.95	*$0.92 -$0.93	$0.90
Grade C bunker oil, ships' bunkers, taxes paid, per bbl.	$0.95	$0.90	$0.90

*Nominal

Mid-Continent Lubricating Oils

(Prices in cents per gallon in bbls. f.a.s. Gulf terminals. In drums and new barrels, 0.5c to 1c higher per gal. in some instances.)

190-200 vis. D 210 bright stock	26.50	26.50	26.50
150-160 vis. D. 210 bright stock			
0-10 pour point	23.50	23.50	23.50
10-25 pour point	23.00	23.00	23.00
25-40 pour point	22.50	22.50	22.50
150-160 vis. E 210 brt. stock	22.50	22.50	22.50
120 vis. D 210 bright stock	21.50 -22.00	21.50 -22.00	21.50 -22.00
180 vis. No. 3 color neutral Oil:			
0-10 pour point	17.25 -17.50	17.25 -17.50	17.25 -17.50
15-30 pour point	16.25 -16.50	16.25 -16.50	16.25 -16.50
200 vis. No. 3 color neutral oil:			
0-10 pour point	17.75 -18.00	17.75 -18.00	17.75 -18.00
15-30 pour point	16.75 -17.00	16.75 -17.00	16.75 -17.00

Mid-Continent Lubricating Oils (Cont'd)

Prices—	Oct. 5	Sept. 28	Sept. 21
600 s.r. olive green	12.50	12.50	12.50
600 s.r. dark green	11.00 -11.25	11.00 -11.25	11.00 -11.25
631 s.r.	18.00 -18.50	18.00 -18.50	18.00 -18.50

South Texas Lubricating Oils

(Viscosity at 100° F., pour point 0. Tanker, f.o.b. Gulf oil terminals, for export shipment)

Vis. Color			
Unfiltered Pale Oils:			
100 No. 3	5.25 - 5.50	5.25 - 5.50	5.25 - 5.50
200 No. 3	6.375- 7.00	6.375- 7.00	6.375- 7.00
300 No. 3	7.00 - 7.50	7.00 - 7.50	7.00 - 7.50
500 No. 3½	7.875- 8.50	7.875- 8.50	7.875- 8.50
750 No. 4	9.00 - 9.25	9.00 - 9.25	9.00 - 9.25
1200 No. 4	9.25 - 9.50	9.25 - 9.50	9 25 - 9.50
2000 No. 4	9.75 -10.25	9.75 -10.25	9.75 -10.25
Red Oils:			
100 No. 5-6	5.25 - 5.50	5.25 - 5.50	5.25 - 5.50
200 No. 5-6	6.125- 6.75	6.125- 6.75	6.125- 6.75
300 No. 5-6	6.75 - 7.00	6.75 - 7.00	6.75 - 7.00
500 No. 5-6	7.25 - 7.625	7.25 - 7.625	7.25 - 7.625
750 No. 5-6	9.00 - 9.25	9.00 - 9.25	9 00 - 9.25
1200 No. 5-6	9.25 - 9.50	9.25 - 9.50	9.25 - 9.50
2000 No. 5-6	9.75 -10 25	9.75 -10.25	9.75 -10.25

Note: Red oil prices shown above cover oils with green cast; prices for blue cast red oils are slightly lower in some cases.

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shipments per ton of 2240 pounds. British sterling: to U. S. ports, cents per barrel)

	Crude &/or Fuel		Refined Oil &/or Spirits	
Rates—Oct. 5	Last Paid	Owners Ask	Last Paid	Owners Ask
Calif. U.K./Cont.*	20/	20/-21/	18/	18/-19/
Gulf.-U.K./Cont.*	9/6	10/-11/	10/3	11/-11/6
Calif.-N. Atlantic (not E. of N. Y.)	....	55c	42c	52c
Gulf-N. Atlantic** (not E. of N. Y.):				
Heavy Crude & Fuel	28c	28c	....	....
Light Crude	26.5c	26.5c	....	....
Gasoline	....	....	22c	22c
Kerosine	....	....	23c	23c
Light Fuel	....	....	25c	25c

Note: Dirty boat quotations are enlarged to cover, "Fuel and Light Crude" quotations.

*Continental ports in range between Bordeaux and Hamburg, both inclusive.

**Venezeula loading same rate: Tampico 2c to 3c per bbl. additional.

COMING MEETINGS

(*Continued from page* 9)

Central Palace, New York, N. Y., Nov. 11 to 18.

Society of Automotive Engineers, annual dinner, New York City, Nov. 12.

Mid-Continent Oil & Gas Association, (Kansas-Oklahoma Division) annual meeting, Tulsa, Okla., Nov. 20.

Independent Petroleum Association of America, annual meeting, Biltmore Hotel, Oklahoma City, Okla., Nov. 30 and Dec. 1.

Mid-Continent Oil & Gas Association, (Texas Division) annual meeting, Houston, Texas, Dec. 4.

First International Consumers Petroleum Exposition, Convention Hall, Detroit, Mich., Dec. 5 to 13.

National Exposition of Chemical Industries, Grand Central Palace, New York City, Dec. 6 to 11.

Nebraska Petroleum Marketers, Omaha, Nebr., Dec. 8, 9 and 10.

1937

Northwest Petroleum Association. North Dakota division, Patterson Hotel, Bismarck, Jan. 18 19.

Northwest Petroleum Association, Minnesota division, West Hotel, Minneapolis, Jan. 21, 22.

Kentucky Petroleum Marketers Association, Brown Hotel, Louisville, Ky., Feb. 8, 9, 10.

National Petroleum Association, 34th semi-annual meeting, Cleveland Hotel, Cleveland, Ohio, Apr. 15 and 16.

Chicago Fuel Prices Advance

CHICAGO, Oct. 5.—On Oct. 5, Standard Oil Co. of Indiana advanced tank wagon prices of all grades of fuel and furnace oils 0.25-cent per gallon in the metropolitan Chicago area.

New prices are: No. 1 fuel, one to 99-gallon delivery, 8.8 cents; 100 to 149 gallons, 7.75 cents; 150 gallons and over, 6.75 cents.

Furnace oils, one to 149 gallons, 7.75 cents; 150 gallons and over, 6.75 cents.

Stanolex fuel A, one to 399 gallons, 6 cents; 400 gallons and over, 5 cents. Stanolex fuel B, one to 799 gallons, 6.50 cents; 800 gallons and over 4.5 cents.

Indiana points in the Chicago area are 0.1-cent higher.

August Petroleum Exports

WASHINGTON, Oct. 2. — Exports of crude petroleuem rose during August but exports of gasoline, gas and distillate fuel oil declined, the department of commerce announces.

Gasoline exports amounted to 1,909,000 barrels during August, a drop of 147,000 barrels from the July total and a decline of 544,000 barrels from the abnormal August of 1935.

Gas and distillate fuel oil shipments abroad during August 1936 were 212,000 barrels under July 1936, but nearly 130,000 barrels higher than August 1935, according to the Department.

Foreign shipments of crude at 5,561,000 barrels in August were 1,103,000 barrels above July and 615,000 barrels above the previous August. Kerosine exports totaled 607,000 barrels in August, which is 133,000 barrels more than July and 88,000 barrels more than August 1935.

Exports of lube oils during August were 25,000 barrels ahead of the July figure of 676,000 and nearly 107,000 barrels higher than August, 1935. Residual fuel oil exports at 918,000 barrels represented a gain of 337,000 barrels over July, and 95,000 over August of last year.

CRUDE OIL MARKETS

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates as given

Eastern Fields

Posted by Joseph Seep Purchasing Agency

(Effective Jan. 13, 1936, except Corning Sept. 18, 1936)

Penna. Grade Oil in Southwest Penna. Pipe Lines.....$2.17
Penna Grade Oil in Eureka Pipe Lines (West Virginia).....$2.12
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.).....$1 97
Corning Oil in Buckeye Pipe Lines (Ohio) $1.32

Posted by Other Companies

Tide Water Pipe Co., Ltd. Bradford-Allegheny district (Penna. and N. Y.) (Effective Jan. 13, 1936)..$2.45
The Pennzoil Co.: (Effective Jan. 13, 1936) Penna. Grade Oil in National Transit Lines.....$2.42
Ashland Oil & Transportation Co.: Somerset Oil in Ashland Lines (Ky.): (Effective Jan. 9, 1936)
Big Sandy River.....$1.30
Kentucky River.....$1 38
*The Pennzoil Co. posts $2.42 in Cochran, Franklin, Hamilton and Doolittle, Pa. fields; prices in other lower districts range down to $2.37 per bbl. at well.

Michigan

Posted by Pure Oil Co.

Midland, Midland County (Sept. 16, 1936)$1.32

Posted by Simrall Pipe Line Corp.

(Effective Sept. 16, 1936)

West Branch and equal grades.....$1.16
Beaverton, Crystal, Greendale, Porter and equal grades.....$1.32

Central States Fields

Posted by Ohio Oil Co.

(Effective Jan. 9, 1936)

Illinois, Princeton, Western Kentucky..$1.23

(Effective Sept. 22, 1936)

Lima.....$1.15

Posted by Stoll Oil Refining Co.

(Effective Jan. 9, 1936)

Stoll Pipe Line Oil (Ky.).....$1.28

Canadian Fields

Posted by Imperial Oil Refineries, Ltd.

Western Ontario

(Effective Sept. 9, 1933)

Petrolia.....$2.10
Oil Springs.....$2.17

Alberta—Turner Valley

(Prices f.o.b. field tankage)

(Effective Feb. 3, 1936)

Crude:		Naphtha:	
40-44.9	$1.55	†Clear	$2.70
45-49.9	$2.12	†Discolored	$2.46
50 and above	$2.32		

†Clear naphtha: 22 color; 10 lbs. vapor pressure, Reid method; 90% recovery; end point, 410°. Discolored naphtha: same specifications as for clear naphtha except color.

Mid-Continent

Posted by Stanolind Crude Oil Purchasing Co.

(Effective Jan. 9, 1936)

(In Oklahoma Kansas)	(In North-North Central Texas)
Below 29.....$0.94	$0.84
29-29.9..... 0.96	0.86
30-30.9..... 0.98	0.88
31-31.9..... 1.00	0.90
32-32.9..... 1.02	0.92
33-33.9..... 1.04	0.94
34-34.9..... 1.06	0.96
35-35.9..... 1.08	0.98
36-36.9..... 1.10	1.00
37-37.9..... 1.12	1.02
38-38.9..... 1.14	1.04
39-39.9..... 1.16	1.06
40 and above..... 1.18	1.08

Above Stanolind prices met as follows: Jan. 9, by The Texas Co. in North and North Central Texas; Continental Oil in all three states.

Note: Stanolind prices in Okla.-Kans. are for quantities computed by 97% tank tables. In Texas, 99% tank tables are used, volume corrected to 60° F., and deduction for full b.s. & w. content.

Posted by Carter Oil Co.

In Oklahoma

(Effective Jan. 9, 1936)

Below 25	$0.86	33-33.9	$1.04
25-25.9	0.88	34-34.9	1.06
26-26.9	0.90	35-35.9	1.08
27-27.9	0.92	36-36.9	1.10
28-28.9	0.94	37-37.9	1.12
29-29.9	$0.96	38-38.9	$1.14
30-30.9	0.98	39-39.9	1.16
31-31.9	1.00	40 and above	1.18
32-32.9	1.02		

Jan. 9, Carter's Oklahoma gravity and price schedule met in Oklahoma-Kansas by Sinclair Prairie, and Humble's West Central Texas schedule met in North and North Central Texas where Sinclair-Prairie buys. Same day, Shell Petroleum met Carter in full in Oklahoma-Kansas.

Posted by Magnolia Petroleum Co.

(Effective Jan. 9, 1936)

In Oklahoma, same schedule as Carter Oil, which see above, beginning with below 25, at $0.86 and ending with 40 & above, at $1.18.

In Texas: North and North Central, including Burkburnett, Archer, Stephens, Henrietta, Electra, Comanche and Olden; and in Central Texas, including Mexia, Wortham, and Panola county, same gravity and price schedule as Humble in West Central Texas, which see below, beginning with below 29 at $0.84, and ending with 40 and above, at $1.08.

Posted by Humble Oil & Refining Co.

Texas Fields

(*West Central Texas)

(Effective Jan. 9, 1936)

Below 29	$0 84	35-35 9	$0.98
29-29.9	0.86	36-36 9	1.00
30-30 9	0 88	37-37 9	1.02
31-31.9	0.90	38-38 9	1.04
32-32.9	0.92	39-39 9	1.06
33-33.9	0.94	40 and above	1.08
34-34 9	0.96		

*Includes Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, Throckmorton and Young counties.

Shell Petroleum Corp., on Jan. 9, met Humble in Fisher county, except that Shell posts five lower grades, beginning with below 25 gravity at $0.76; 25-25.9, $0.78; 26-26.9, $0.80; 27-27.9, $0.82; and 28-28.9, $0.84; rest of schedule same as Humble's in West Central Texas.

†Effective Dec. 1, 1934, Humble prices are based on 99% tank tables at 60F. Allowance or deduction of 1% is made for each 25° change in temperature above or below 60F.

*East Central Texas

(Effective Jan. 9, 1936)

Below 29	$0.91	35-35.9	$1.05
29-29.9	0.93	36-36.9	1.07
30-30.9	0.95	37-37.9	1.09
31-31.9	0.97	38-38.9	1.11
32-32.9	0.99	39-39.9	1.13
33-33.9	1.01	40 and above	1.15
34-34.9	1.03		

*Including Anderson, Cherokee, Limestone, Navarro and Van Zandt counties.

Stanolind Oil & Gas Co., Jan. 20, posted in Marion County (East Central Texas), below 29 oil at $0.86, plus 2c differential, to 40 and above at $1.10.

Jan. 9, Sinclair-Prairie met Humble's prices in Mexia.

Panhandle Texas

Posted by Humble Oil & Refining Co.

(Effective Jan. 9, 1936)

	Gray County	Carson-Hutchinson
Below 35	$0 86	$0.81
35-35.9	0 88	0.83
36-36.9	0 90	0.85
37-37.9	0.92	0.87
38-38.9	0.94	0.89
39-39.9	0.96	0.91
40 & above	0.98	0.93

Jan. 9, above prices met by Sinclair-Prairie, Magnolia and The Texas Co. in the entire area, also by Continental Oil in Carson-Hutchinson.

East Texas

(Effective Jan. 9, 1936)

Stanolind, Humble, Shell, Sinclair-Prairie, Texas, Sun Oil and Magnolia.....$1.15

Shell also posted on Jan. 9, in Livingston area, Polk County, Texas, $1.15.

West Texas and New Mexico

Posted by Humble Oil & Refining Co.

(Effective Jan. 14, 1936)

(Including Andrews, Crane, Crockett, Ector, Glasscock, Howard, Winkler and Upton Counties, Texas, and Lea county, New Mexico).

Below 29	$0.75	33-33.9	$0.84
29-29.9	0.76	34-34.9	0.86
30-30.9	0.78	35-35.9	0.88
31-31.9	0.80	36 & above	0.90
32-32.9	0.82		

Pecos, West Texas..... $0.85

Posted by Continental Oil Co.

(Effective Jan. 9, 1936)

Artesia, Jackson and Maljamar pools, N. M. $0.80

Jan. 16, Magnolia met Humble in Crane, Upton, Howard, Glasscock, Mitchell and Winkler.

Jan. 9, Texas Co. posted Winkler and Lea counties at $0.85; Crane and Upton, $0.80.

Shell Petroleum Corp., on Jan. 23, met Humble in Crane, Glasscock, Howard, Pecos (except Yates shallow pool), Winkler, and Upton counties, Tex., and in Lea County, N. Mex. On Jan. 9, Shell posted in Yates shallow pool in Pecos county, Tex., $0.75.

Northeast Texas

(Posted by Humble, April 15, 1936)

Talco.....$0.60

(Posted by Magnolia, May 1, 1936)

Cass County (Rodessa field):
Below 29.....$0.86
29-29.9..... 0.88
Rest of schedule same as S. O. La. posts in Rodessa, which see below.

South and Southwest Texas

Posted by Humble Oil & Refining Co.

(Effective Jan. 14, 1936)

Darst Creek	$0.97	Pettus	$1 25
Salt Flat	0.97	Tomball	1 30
Saxet	0.90	Mirando	0.85

Shell Pet. Corp. on Jan. 9, posted $0.97 in Salt Flat district, Tex.

Anahua (Chambers county) and Dickinson (Galveston county)

(Effective Jan. 9, 1936)

30-30.9	$1.04	36-36 9	$1.16
31-31.9	1.06	37-37 9	1.18
32-32.9	1.08	38-38 9	1.20
33-33.9	1.10	39-39 9	1.22
34-34.9	1.12	40 & above	1.24
35-35.9	1.14		

Jan. 9, The Texas Co. posted $0.97 for Darst Creek.

Jan. 9, Magnolia posted $0.97 in Darst Creek; $1.30 in Tomball; $0.90 in Luling; $1.00 in Lytton Springs; $0.85 for Mirando; $1.10 for Cleveland, Liberty county, Tex.; $1.03 in Hardin, Liberty county, Tex.

Posted by Humble

Conroe and Raccoon Bend

(Deep sand crudes)

(Effective Jan. 9, 1936)

35-35.9	$1.24	38-38 9	$1.30
36-36.9	1.26	39-39 9	1.32
37-37.9	1.28	40 & above	1.34

Jan. 9, Texas Co. met above prices.

North Louisiana-Arkansas

Posted by Standard Oil Co. of Louisiana

(Effective Jan. 10, 1936)

(In Caddo, Homer, Haynesville, Sabine, De Soto, Rodessa, Sarepta, Carterville, El Dorado, and Miller county).

Below 25	$0.78	33-33.9	$0.96
25-25.9	0.80	34-34.9	0.98
26-26.9	0.82	35-35.9	1.00
27-27.9	0.84	36-36.9	1.02
28-28.9	0.86	37-37.9	1.04
29-29.9	0.88	38-38.9	1.06
30-30.9	0.90	39-39.9	1.08
31-31.9	0.92	40 and above	1.10
32-32.9	0.94		

Smackover, Ark.....$0.75
Nevada, Ark..... 0.65
Urania, La. (La. Oil Refg. Co., Jan. 1, '34) 0.87
Tepetate, La. (Continental Oil, Jan. 9, '36)$1.12

The Texas Co., effective Jan. 9, posted in No. La.-Ark. same prices as Humble posts in West Central Texas. It also posted $0.80 for Smackover and $1.12 for La Fitte, La.

Magnolia Petroleum Co., effective Jan. 16, posted on No. La.-Ark. crude, prices beginning with $0.86 for below 29 gravity, plus 2 cent differential to 40 and above, at $1.10; this posting includes Rodessa, beginning March 16, 1936. It also posted on the same day, Eldorado (East Field), and Smackover, Ark., $0.75; Lockport, La., below 20 gravity, at $0.92, plus 2c differential, to 34 and above, which is $1.22; and for Iowa, La. and Cameron-Meadow field Cameron Parish, La., below 20 at $0.82, plus 2c differential, to 34 and above, at $1 12.

Stanolind Oil & Gas Co., Jan. 20, posted in Caddo Parish, La., below 29 oil at $0.86, plus 2c differential, to 40 & above at $1.10.

Shell Pet. on Jan. 9, posts same schedule in Black Bayou and White Castle, La. as Magnolia posts in Lockport, which see in above paragraph and in Iowa district, La. posts same schedule as Magnolia in Iowa and Cameron, which also see above.

(*Continued on next page*)

Richfield Committee Fees Protested by Creditors

LOS ANGELES, Oct. 3.—A hitch in reorganization plans of Richfield Oil Co. developed the past week when a creditor group protested an application of $885,650 for fees and expenses incurred during the prolonged negotiations.

The sum asked does not include payment to the receiver or his attorneys, but pertains entirely to expenses and fees of the several committees, and their attorneys, representing secured and unsecured creditors of the Richfield and Pan American companies.

Amounts asked by the protective committees were: Pan American bondholders', $98,970; Richfield bondholders', $214,487; Unsecured creditors', $57,192. The reorganization committee asked for $182,980.

Attorneys for the committee groups asked a total of $515,000, divided in this manner: Attorneys for Richfield bondholders' $165,000; for the Pan American bondholders' $175,000 and for the unsecured creditors' committee, $175,000.

In protesting the payment of the total sum attorney for Universal Consolidated Oil Co., a Richfield creditor, argued that the fees were too large and it was too early for them to be considered.

Present plan, which was proposed August 20 by the reorganization committee would give Consolidated Oil Corp. and Cities Service Co. joint control of Richfield through Rio Grande Oil Co., which is now held on a joint basis by these two companies. Following the 30-day period, after announcement of the plan, in which depositors with the various committees had the privilege of withdrawing their bonds or claims, it was announced that more than the 60 per cent required for success of the plan had been deposited.

Hearing on the application for the expenses and fees is expected to continue for several days.

New "Roadable" Autogiro

WASHINGTON — An experimental type autogiro, capable of being driven on highways as well as being flown in the air, has been delivered to the Bureau of Air Commerce by the Autogiro Co. of America, Philadelphia, Pa., builders of the craft.

CRUDE OIL MARKETS

(Continued from preceding page)

*Gulf Coastal Fields

Posted by Humble Oil & Refining Co.

(Effective Jan. 9, 1936)

Below 18	$0.88	26-26.9	$1.06
18-18.9	0.90	27-27.9	1.08
19-19.9	0.92	28-28.9	1.10
20-20.9	0.94	29-29.9	1.12
21-21.9	0.96	30-30.9	1.14
22-22.9	0.98	31-31.9	1.16
23-23.9	1.00	32-32.9	1.18
24-24.9	1.02	33-33.9	1.20
25-25.9	1.04	34 and above	1.22
Refugio heavy			$0.90

Effective Dec. 1, 1934, Humble prices are based on 99% tank tables at 60F Allowance or deduction of 1% is made for each 25° change in temperature above or below 60F.

*Includes these fields: Barbers Hill, Goose Creek, Hull, Humble, Liberty, Moss Bluff, Mykawa, Orange, Pierce Junction, Rabbs Ridge, Raccoon Bend (shallow sand), Refugio light, Sour Lake, Spindletop, Sugarland, and West Columbia.

Above gravity and crude schedule met Jan. 9 by The Texas Co., except that Texas Co. posts $0.92 for below 20. Jan. 9, Sinclair-Prairie met above Humble schedule in full.

Rocky Mountain Fields

Posted by Stanolind Oil & Gas Co.

(Effective Jan. 9, 1936)

Salt Creek, Midway and Dutton Creek, Wyo., same schedule as Stanolind posts in Oklahoma-Kansas which see.

Grass Creek, heavy	$0.72
Greybull-Torchlight	1.28
Iles, light, Col.	1.06
Iles, heavy	1.00
Hogback, N. M.	1.21
Frannie light (Effective Feb. 24, '36)	0.78
Frannie heavy	0.72
Hamilton Dome, Wyo.	0.67

(Effective July 20, 1936)

Elk Basin, light	$1.18
Grass Creek, light	1.18

Pondera, Mont., (Postings discontinued July 1, 1936, but Stanolind pays price posted by Ohio Oil for Kevin-Sunburst, less 20c per bbl.)

Posted by Ohio Oil Co.

(Effective July 20, 1936)

Elk Basin, Wyo.	$1.18
Grass Creek, light	1.18

(Effective Jan. 9, 1936)

Rock Creek	$1.12
Big Muddy	1.11

(Effective June 5, 1936)

Sunburst, Mont.	$1.15

Posted by *International Refg. Co.

(Effective June 5, 1936)

Cut Bank, Mont.

Below 35°	$1.29	38-38.9	$1.37
35-35.9	1.31	39-39.9	1.39
36-36.9	1.33	40 and above	1.41
37-37.9	1.35		

*Texas Co. subsidiary.

Posted by Continental Oil Co.

(Effective Jan. 9, 1936)

Cat Creek, Mont.	$1.28

CALIFORNIA, Posted by Standard Oil of California

All gravities above those quoted take highest price offered in the field. Effective Feb. 26, 1936 except Huntington Beach, Playa del Rey, Santa Fe Springs, Kern Front, Signal Hill (Long Beach) effective March 7, 1936, and Elk Hills, effective June 22, 1936

Gravity	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda Brea Canon	Athens Rosecrans	Dominguez	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	‡Newhall and others	Mountain View	Elk Hills	Buena Vista Hills **Midway-Sunset	Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$0.80	0.79	0.74	0.78	0.79	0.80	0.76	....	....	0.80	0.76	0.76	0.77	0.78	....	0.70	....	0.70	0.70	0.65	0.70	0.70	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	.82	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	.85	.76	.78	.77	.78	....	.70	.70	.74	.74	.66	.74	.71	0.70
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	.88	.78	.82	.77	.80	....	....	.70	.78	.78	.68	.78	.72	.70
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	.91	.80	.85	.77	.84	.78	....	.73	.82	.82	.71	.82	.74	.70
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	.93	.84	.89	.79	.88	.78	....	.77	.87	.87	.74	.86	.78	.72
23-23.9	.95	.86	.77	.96	.99	1.02	.96	.84	.79	.96	.88	.93	.82	.92	.78	....	.80	.92	.92	.77	.90	.82	.76
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	.99	.91	.96	.85	.96	.82	....	.84	.97	.97	.80	.94	.86	.79
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	1.20	.95	....	.89	.99	.86	....	.88	1.01	1.01	.83	.98	.90	.83
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	1.05	.98	....	.92	1.03	.90	....	.91	1.06	1.06	.86	1.02	....	....
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	1.02	....	.96	1.06	.95	....	.95	1.10	1.10	.88	1.06	....	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	1.06	....	.99	1.10	.99	....	.99	1.15	1.15	.91	1.10	....	....
29-29.9	1.17	1.15	.93	1.18	1.18		1.17	1.12	.93	....	1.09	....	1.03	1.14	1.03	....	1.02	1.20	1.20	.94	1.14	....	....
30-30.9	1.21	1.19	.95	1.22	1.21		1.21	1.17	.95	....	....	....	1.07	1.17	1.08	....	1.06	1.25	1.25	.97	1.18	....	....
31-31.9				....	1.24		1.24	1.22	.97	....	....	....	1.11	1.21	1.12	....	1.09	1.29	1.29	.99			
32-32.9		*Elwood Terrace		....	1.27		1.27	1.27	1.00	....	....	....	1.14	1.25	1.16	....	1.13	1.34	1.34	1.02	Kettleman Hills		
33-33.9		....	1.28	....	....		....	1.32	....	....	....	....	1.18	1.28	1.20	....	1.17	1.38	1.38	1.04	....	1.19	....
34-34.9		....	1.32	....	....		....	1.37	....	....	....	....	1.22	1.32	1.25	....	1.20	....	....	....	....	1.23	....
35-35.9		....	1.35	....	....		....	1.42	....	....	....	....	1.25	....	1.29	....	....	....	....	....	....	1.27	....
36-36.9		....	1.39	....	....		....	1.46	....	....	....	....	1.29	....	1.33	....	....	....	....	....	....	1.31	....
37-37.9		....	1.43	....	....		....	1.51	....	....	....	....	1.32	....	1.37	....	....	....	....	....	....	1.35	....
38-38.9		....	....	....	....		....	1.56	....	....	....	....	1.36	....	1.42	....	....	....	....	....	....	1.39	....
39-39.9		....	....	....	....		....	1.61	....	....	....	....	1.40	....	....	....	....	....	....	....	....	1.43	....
40-40.9		....	....	....	....		....	1.66	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	....

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Revenue Bureau Ruling On Naphtha in Cans

WASHINGTON, Oct. 5

THE Internal Revenue Bureau has ruled that naphtha in sealed cans of five gallons or less and white oil may be sold tax-free by the manufacturer without obtaining exemption certificates.

By holding (S. T. 846) that manufacturers or dealers may sell, free from the federal gasoline tax, naphtha in sealed containers of five gallons or less, labeled, advertised and sold for specific non-motor fuel uses without obtaining exemption certificates, the revenue bureau reverts to its policy in effect prior to Oct. 1, 1935. Since that date the IRB has required exemption certificates where the naphtha was sold in cans larger than one-gallon.

In the white oil ruling (S. T. 844), the IRB held that white oil which is odorless, tasteless, and of 30 Saybolt color or higher, and which is seldom sold or used for lubricating purposes, may be sold free from the federal lubricating oil tax without obtaining exemption certificates. Text of the two rulings is:

S. T. 846

"Advice is requested whether naphtha packaged in sealed containers of 5 gallons or less and advertised and sold for nonmotor fuel purposes may be sold by manufacturers or dealers without obtaining exemption certificates from the purchasers.

"It is contended that the sale of naphtha in either 1-gallon or 5-gallon sealed containers effectively places the product so sold in the non-motor fuel use class, because the total price of the product, whether in 1-gallon or 5-gallon containers, is much greater than the prevailing retail price of gasoline.

"It is held that manufacturers or dealers who package naphtha in sealed containers of 5 gallons or less, labeled to indicate specific non-motor fuel uses, and who advertise and sell such product for use or for resale only for nonmotor fuel purposes, may sell it tax-free without the necessity of obtaining exemption certificates from the purchasers thereof. However, where naphtha is sold in bulk, the tax imposed under section 617 of the Revenue Act of 1932, as amended, attaches to the producer's sale of the product and no refund or credit of the tax paid may be obtained unless the ultimate vendor furnishes the producer who paid the tax to the Government with the evidence outlined in article 84 of Regulations 44, as amended by Treasury Decision 4604 (C. B. XIV-2,381).

"Prior to October 1, 1935, the Bureau permitted tax-free sales of naphtha in containers of 5 gallons or less without requiring exemption certificates. Since October 1, 1935, the Bureau has permitted tax-free sales of naphtha without exemption certificates only when sold in containers of 1 gallon or less. This ruling reverts to the requirements in effect before October 1, 1935, by permitting on or after that date sales, free from tax, without the necessity of obtaining exemption certificates, where the naphtha is sold in sealed containers of 5 gallons or less solely for specified nonmotor fuel uses.

"This ruling is not to be taken as a precedent in considering the taxable status of the sale of any other taxable product."

S. T. 844

"Advice is requested whether white oil of the kind hereinafter described may be sold by the manufacturer or producer for nonlubricating purposes free from tax without securing from the purchasers the exemption certificates required by article 43 of Regulations 44 (1934), as amended by Treasury Decision 4604 (C. B. XIV-2, 379).

"Section 601 (c) 1 of the Revenue Act of 1932, as amended, imposes a tax of 4 cents a gallon upon the sale of lubricating oil by the manufacturer or producer. Sales by the manufacturer or producer of an oil having both lubricating and nonlubricating uses when made for nonlubricating purposes are not subject to tax, provided the oil is put into a channel of consumption or distribution for use other than that of lubrication and the manufacturer or producer obtains the exemption certificate required by article 43 of Regulations 44 (1934), as amended by Treasury Decision 4604, supra.

"The white oil in question is a highly refined product of petroleum specially manufactured for use almost exclusively for other than lubricating purposes. It is odorless, tasteless, and of 30 Saybolt color or higher. Substantially all (at least 99½ per cent) of such oil is used for pharmaceutical, cosmetic, and other purposes which do not involve lubricating uses, and the balance is sold into tax-exempt channels. The manufacturing process and the treatment required to produce white oil of the above specifications result in a loss of 30 to 60 per cent of the original lubricating oil put in process, and as a consequence the price of such oil is much higher than that charged for ordinary lubricating oils.

"It is held that white oil which is odorless, tasteless, and of 30 Saybolt color or higher, and which is seldom sold or used for lubricating purposes even though it has qualities which make it capable of being used for such purposes to a limited extent, may be sold free from tax for nonlubricating purposes on or after June 21, 1932, without requiring the manufacturers or producers thereof to secure exemption certificates usually required in respect of such sales, provided, however,

that the manufacturers or producers of such white oil shall account for and pay the tax with respect to any of such oil which may actually be sold or used for lubricating purposes. A complete record of all sales of such white oil must be retained by the manufacturer or producer thereof for a period of four years and be kept available for inspection by representatives of the Bureau.

"This ruling is not to be taken as a precedent in considering the taxable status of the sale of any other taxable article."

Transferred to Tulsa

TULSA—Foster Morrell, petroleum engineer, has been transferred from the U. S. Geological Survey offices in Washington to Tulsa. He has been with the Survey for some years and is with the oil and gas leasing division of the conservation branch. His work in Tulsa will be in connection with supervision of operations on leased public and Indian lands.

National Petroleum News Ownership Statement

Statement of the ownership, management, circulation, etc., required by the Act of Congress of August 24, 1912, and March 3, 1933, of National Petroleum News, published weekly at Cleveland, Ohio, for October 1, 1936, State of Ohio, County of Cuyahoga.

Before me, a notary public in and for the State and County aforesaid, personally appeared A. E. Kraft, who, having been duly sworn according to law, deposes and says that she is the business manager of the National Petroleum News and that the following is, to the best of her knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, The National Petroleum Publishing Company, Cleveland, Ohio; editor, Warren C. Platt, Cleveland, Ohio; managing editor, V. B. Guthrie, Cleveland, Ohio; and business managers are: A. E. Kraft, Cleveland, Ohio.

2. That the owners are: The National Petroleum Publishing Co., Cleveland, Ohio; Warren C. Platt, Cleveland, Ohio; Bess H. Platt, Cleveland, Ohio; A. W. Brobst, Cleveland, Ohio; Margaret H. Fretter and Margaret Fretter Nye, Cleveland, Ohio.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of the total amount of bonds, mortgages, other securities are None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holders appear upon the books of the company as trustees or in any other fiduciary relation, the names of the person or corporation for whom each trustee is acting, is given; also that the said two paragraphs contain statemen's embracing affiants' full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds or other securities than as so stated by her.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise to paid subscribers during the six months preceding the date shown above is (This information is required from daily publications only.)

(Signed) A. E. KRAFT,
Business Manager.

Sworn to and subscribed before me this 29th day of September, 1936.

(Signed) H. L. RICHEY,
Notary Public.

(My commission expires May 7 1939.)

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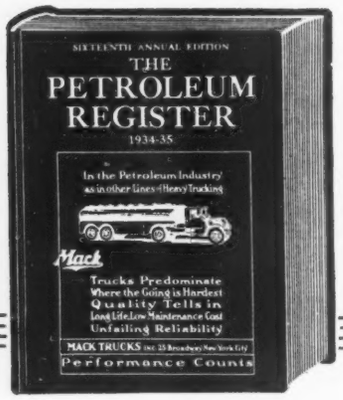

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NEW REFINING PATENTS

Polymerization. No. 2 051 859, issued Aug. 25, 1936; filed May 26, 1934; V. Ipatieff and V. Komarewsky, assignors to Universal Oil Products Co.; no drawing; 4 claims.

A FEATURE of the process is polymerization of ethylene at an economical rate at moderate conditions of temperature and pressure, namely, 300 to 430 F. and 5 to 20 atmospheres. Phosphoric acid catalysts are used along with liquid olefines.

* * *

Cracking. No. 2 050 847, issued Aug. 11, 1936; filed Jan. 17, 1934; P. C. Keith, Jr., assignor to Gasoline Products Co.; one drawing; 4 claims.

PROCESS whereby a heavy relatively dirty charging stock is cracked lightly and evaporated along with a more highly cracked, relatively clean charging stock, to form vapors and a liquid residue. Two condensates are formed in the evaporator of which the heavier is mingled with preheated relatively heavy fresh charging stock and subjected to the aforesaid light cracking operation, and the second cleaner condensate of a lighter nature is fractionated with vapors from the evaporator. The reflux condensate from the fractionator serves as a clean charging stock and the vapors removed as a desirable product.

* * *

Emulsion breaking. Nos. 2 050 639-40, issued Aug. 11, 1936; filed July 7, 1930; T. B. Wayne; no drawings; 13 claims each.

PROCESS of breaking water-in-oil emulsions by adding the condensation product of a cyclic sulfonic acid, and an oil-soluble non-hydroxy alkyl amine or an aralkyl amine characterized by having its amino group in an alkyl side-chain.

* * *

Fractionating column packing. No. 2 047 444, issued July 14, 1936; filed Jan. 14, 1934; D. F. Stedman; 10 drawings; 11 claims.

PACKING for fractionating columns with a continuous structure of capillary material or gauze of woven wire of such a mesh that liquid being treated with completely seal the openings, while larger openings, which are not sealed by the liquid, are provided for the passage of the vapors. The capillary material is so arranged that the liquid will have a continuous path downward, and the vapor a continuous path upward.

Mesh openings of 0.02 inch in their smallest dimension may permit some liquid to flow down the inside walls of the tube, but mesh openings of 0.01 are said to be satisfactory. However, the mesh openings to be used will depend upon the type of liquid being treated and the amount of reflux liquid.

* * *

Stabilization. No. 2 048 770, issued July 28, 1936; filed Sept. 8, 1931; E. Ayres, assignor to Gulf Oil Corp.; no drawing; 4 claims.

THE use of a combination of an anti-oxidant and a retarding agent, one having the effect of prolonging the induction period and the other of retarding the formation of gum after the induction period. The process of stabilizing cracked motor fuels is by the addition thereto of 0.001 per cent alpha-naphthol to retard the gum induction period, together with 0.0005 per cent phenyl beta naphthylamine to lower the rate of gum formation. Claims also cover the use of the combination of hydroquinone ammonia and diphenylamine.

* * *

Motor fuel. No. 2 049 062, issued July 28, 1936; filed Aug. 3, 1935; F. A. Howard, assignor to Standard Oil Development Co.; no drawing; 16 claims.

PROVISION is made for a product of higher viscosity than straight gasoline, so as to reduce the flow through the carburetor jet without adverse effects such as decreasing volatility. The substance used may be produced by polymerization of olefines such as isobutylene with boron fluoride at low temperature, thus forming a water-white, viscous material having a molecular weight greater than paraffin.

* * *

Lubricant. No. 2 049 072, issued July 28, 1936; filed Aug. 29, 1933; L. A. Mikeska and L. B. Turner, assignors to Standard Oil Development Co.; no drawing; 13 claims.

THE invention is said to eliminate many, if not all, of the disadvantages in the use of blends of castor oil and mineral oil, and to attain new results by way of increased miscibility, viscosity and stability. A hydroxy compound, represented typically by castor oil, is esterified so as to have predetermined viscosity, with an acid compound selected from the group consisting of saturated and unsaturated straight chain fatty acids and aromatic acids, the acyl halides and anhydrides of such acids. The esterification product is then at least partially hydrogenated.

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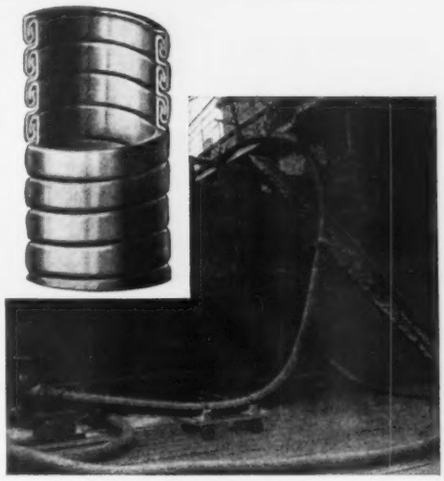

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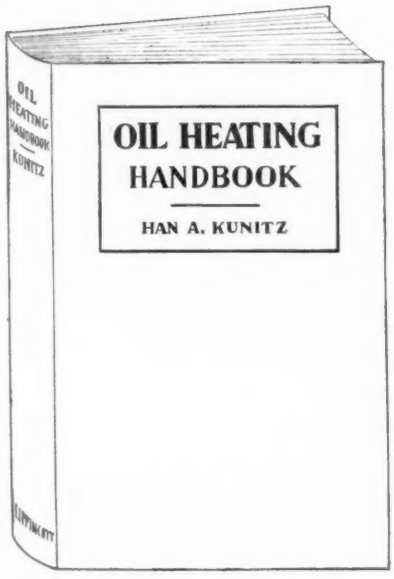

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September 15, 1936

REFINING

Process and apparatus for dewaxing oil—Harmon F. Fisher, Los Angeles, Calif., assignor to Union Oil Co. of Calif. Filed Dec. 26, 1933. No. 2,054,075.

Process and apparatus for dewaxing oil—Philip Subkow, Los Angeles, Calif., assignor to Union Oil Co. of Calif. Filed Dec. 26, 1933. No. 2,054,273.

Process for solvent extraction of hydrocarbon oils—David R. Merrill, Long Beach, Calif., assignor to Union Oil Co. of Calif. Filed Dec. 12, 1933. No. 2,054,295.

Dewaxing wax-bearing oil—Francis X. Govers, Vincennes, Ind., assignor to Indian Refining Co. Filed Mar. 19, 1934. No. 2,054,416.

Dewaxing hydrocarbon oil—Edwin C. Knowles, Beacon, N. Y., assignor to Texas Co. Filed May 11, 1935. No. 2,054,430.

Manufacture of lubricating oil—Robert E. Manley, Beacon, N. Y., assignor to Texas Co. Filed Mar. 9, 1932. No. 2,054,433.

Conversion of hydrocarbon gases—Jesse A. Guyer, Bartlesville, Okla., assignor to Phillips Petroleum Co. Filed Aug. 27, 1934. No. 2,054,599.

Apparatus for making high viscosity index lubricating oils—Harry T. Bennett, Tulsa, Okla., assignor to Mid-Continent Petroleum Corp. Filed July 5, 1933. No. 2,054,613.

Treatment of carbonaceous material (production of liquid hydrocarbon distillates)—Charles J. Greenstreet, London, England. Filed May 26, 1931. No. 2,054,725.

Refining of petroleum oils—Eric B. Hjerpe, Pittsburgh, and William A. Gruse, Wilkinsburg, Pa., assignors to Gulf Research & Development Co. Filed Nov. 2, 1934. No. 2,054,750.

Treatment of hydrocarbon oils—Robert E. Manley and Walter Ullrich, Beacon, N. Y., assignors to Texas Co. Filed June 13, 1932 No. 2,054,774.

Dewaxing hydrocarbon oil—Ernest F. Pevere, Beacon, N. Y., assignor to Texas Co. Filed May 7, 1935. No. 2,054,775.

Conversion of carbonaceous materials—Matthias Pier, Bruno Engel, and Walter Kroenig, Germany, assignors to Standard-I. G. Co. Filed Aug. 15, 1933. No. 2,054,776.

Treatment of hydrocarbon oil—John T. Ward, Westfield, N. J., assignor to Gasoline Products Co. Filed Mar. 31, 1933. No. 2,054,777.

MISCELLANEOUS

Process and product for stabilization of unsaturated hydrocarbons—Charles P. Wilson, Jr., Houston, Tex. Filed Dec. 21, 1934. No. 2,054,276.

Partial combustion method for treating aliphatic hydrocarbons—Joseph H. James, Pittsburgh, Pa. Filed Jan. 6, 1921. No. 2,054,571.

Fuel oil—Donald A. Howes, Norton-on-Tees, England, assignor to Imperial Chemical Industries Ltd. Filed June 14, 1933. No. 2,054,628.

Method of making a corrosion-inhibiting lubricant—Carl M. Clementson, Malmo Sweden. Filed Mar. 14, 1934. No. 2,054,721.

TANK WAGON CHANGES

(*Continued from page* 61)

S. O. Indiana—Standard Red Crown:
Service stations in Illinois (except Chicago area) and North Dakota, transferred to dealers, Oct. 1.

S. O. Kentucky—Crown and Kyso:
Covington, Lexington and Louisville, cut 1c, Sept. 29.

Imperial Oil—Three Star Imperial and Kerosine:
St. John and Halifax, cut 1c, Oct. 1

S. O. Louisiana—Kerosine:
Lake Charles, cut 1c, Oct. 3.

Continental Oil—Conoco Bronze:
Ft. Smith and Little Rock, t.w. cut 0.5c, Oct. 1.

Corrections

Notation of amount of change and dates not previously shown in table. Table in this issue is corrected to show these changes. Changes are on gasoline unless kerosine is indicated.

S. O. New Jersey—Essolene:
Washington, s.s. cut 0.5c, Sept. 19.

S. O. Kentucky—Crown:
Paducah, t.w. cut 1c, s.s. cut 1.5c, Sept. 25.

Kyso:
Paducah, cut 1.5c, Sept. 25.

Kerosine:
Paducah, cut 0.5c, Sept. 23.

S. O. Indiana—Red Crown:
Des Moines and Mason City, cut 0.3c, Sept. 25.

S. O. Indiana—Kerosine:
Joliet, cut 0.9c, Sept. 4.

Federal Gasoline Award

WASHINGTON, Oct. 3.—The October-December contract for supplying federal agencies in the District of Columbia with V-65 gasoline by tank wagon delivery has been awarded to General Refining Co., an independent jobbing company of Baltimore, at tank car price less 0.45 cents, with a maximum price of 7.05 cents for "Oriole," according to the Treasury Procurement Division.

The V-75 tank wagon business went to Standard of New Jersey at tank car less 0.36 cents, with a maximum of 9.14 cents for "Esso."

General also won the kerosine contract at tank wagon less 1.75 cents with a maximum of 6.5 cents, and the contract for unleaded gasoline for cleaning purposes at 6.05 cents.

Oil Burner Shipments

WASHINGTON, Oct. 5.—The Department of Commerce reports 20,919 oil burners were shipped during August, bringing the total for the January-August period to 98,097. In 1935, shipments for the 8-month period totaled 68,321, while in 1934 the total was 51,482.

Carl Fehr Resigns

CLEVELAND, Oct. 5—Carl Fehr has resigned as sales manager of the Ohio division of Cities Service Oil Co., effective today, and will move to the west coast. William H. "Bill" Loviner, who has been in charge of the Springfield office of the company the past 5 years will assume Mr. Fehr's duties.

Mr. Fehr has taken the position of Pacific coast manager for Seagram Distilleries, Inc., with offices at San Francisco.

Increases Line Capacity

TULSA, Oct. 3.—Gulf Refining Co. will construct 287 miles of 10-inch loops on its trunk line from Jenks, Okla. to Dublin, Ind. Work is to start Oct. 15 and be finished about Jan. 1.

Average all year capacity of the line is now 31,000 barrels daily, with summer peak at 34,000 barrels. The new loops will enable the company to average 42,000 barrels daily and to run as high as 50,000 barels daily during summer months.

The line was laid from Jenks to Dublin five years ago to supply new plants of the company at Pittsburgh, Cincinnati and Toledo. Requirements of those plants have been increased. Gulf utilizes the lines of other pipeline companies from Dublin to Toledo and Pittsburgh, has a branch from the terminus of its main line to Cincinnati.

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The new 100% distilled non-carbonizing, anti-oxidizing, extreme low cold test motor oil that wear-proofs an engine .... keeps it clean .... keeps out wear producing sludge .... and 'stays put' in any crankcase—winter or summer.

Can't you see the distinctive container pictured below fairly 'bristling' with eye arresting "sales appeal"? Yes, sir, you're right—(and that's just what we thought you'd say.) It is a canned oil that will 'go places'—IT'S THE OIL YOU NEED!

PRICED TO BEAT ALL COMPETITION

Bio-lube is available for immediate shipment, 1-quart and 2-gallon sealed cans, sealed drums, or in bulk.

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SHREVEPORT, LA.

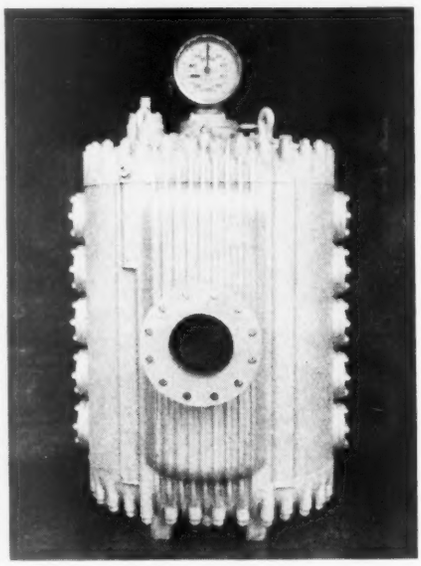
BAYOU STATE OIL CORPORATION,
SHREVEPORT, LOUISIANA
Gentlemen:
Send me full information on BIO-LUBE MOTOR OIL.
Name _____ Position _____
Company _____
Street and Number _____
City _____ State _____

INTERESTING TRADE ITEMS

Meters 1000 Gallons a Minute

A 1000 gallon a minute meter recently was shipped by the Oceco Division of the Johnston and Jennings Co., Cleveland, for service in Japan, where it will be used in metering various petroleum products ranging in viscosity from lubricating oil to refined gasoline. It is the largest of the company's standard positive displacement vertical meters of this type to be built, being 63 inches high, 40½ inches wide, 42⅜ inches face to face of the flanges and weighing 4300 pounds.

The outer casing, designed with fluted ribs that add strength without too great



weight, is a strong semi-steel casting in which two cylindrical chambers are provided. These are fitted with specially designed double-acting pistons that oscillate back and forth the full length of a fixed stroke as the material passes through, registering the amount of passage on the recording dial. The pistons function also as their own valves, consequently there are no levers, valve gears or delicate mechanisms to get out of order. Even at the high capacity, the meter will meet the specified requirements of constantly maintained accuracy regardless of variations in temperature, viscosity or pressure.

* * *

Meter Pump

Said to be the first meter pump in pump history without the usual hands or graduated dial, the new Bowser Figure 510 Xacto meter pump is the companion of the Xactomatic introduced earlier this year. Except for the computing feature of the earlier model the two are identical.

Some of the features of the new pump are its automatic power re-set of indicators operated by removal of the hose from its hook, the zero-set interlock making it impossible after hanging up the hose, to start the pump without the indicators being set at zero, simplified posted price changing and a continuous totalizer showing the number of gallons that have been dispensed.

The S. F. Bowser & Co., Inc., Fort Wayne, Ind., has just issued a bulletin describing the pump in full detail.

* * *

Marking Standard for Valves

A new edition of the "MSS Standard Practice" covering a standard marking system for valves, fittings, flanges and unions, SP-25-1936, has just been issued by the Manufacturers Standardization Society of the valve and fittings industry.

The method of applying the general rules for marking as set forth is more specifically visualized in this edition by the inclusion of a number of tables definitely outlining the standard method of applying uniform markings to a wide variety of products.

Copies of SP-25-1936, price 50 cents each, may be secured from the Society—420 Lexington Ave., New York.

* * *

Electric Motors

A new design of riveted-frame squirrel-cage polyphase induction motors, in frame sizes of from one to 15 hp. at 1800 r.p.m., is announced by General Electric Co. The new motors, available in a variety of electrical and mechanical modifications including the explosion-proof and other totally enclosed types, incorporate improvements in stator-coil insulation, frame construction, and other design features. The motors are said to be adaptable to many special requirements in the standard line. Recently developed insulating materials and processes are used, eliminating the need for taping the end windings.

* * *

Beach Makes Briquettes

CHICAGO, Sept. 12.—C. A. Beach, Chicago district representative of Empire Oil & Refining Co. ten years ago, was in Chicago this week. Mr. Beach is still in Kansas City but last fall organized his own company, the Carbon Coke Blox Co., manufacturing and marketing petroleum coke briquettes. He had been with the Great Lakes Coal Co. in Kansas City.

COPPER SWEETENING

(*Continued from page 40*)

droxy derivatives which are more or less completely removed by strong caustic solutions. Thus, it is commonly noted that the oxygen bomb induction period of many gasolines is materially shortened during the treatment with the strongly alkaline doctor solution. It is possible in many instances to avoid entirely the use of caustic solutions in the copper sweetening process, thereby retaining such natural gum inhibitors as are present in the gasoline.

Improvement of Quality of Product

In sweetening a gasoline with a copper reagent, the mercaptans are converted completely to disulfides whereas in doctor treating, and especially in those of the lead sulfide or continuous type, there are formed alkyl polysulfides which are extremely objectionable. These polysulfides result in a gasoline becoming corrosive to a copper strip after exposure to light for a very brief period. Also, tertiary mercaptans lead to the formation of objectionable compounds during hypochlorite treating. None of these difficulties are encountered in copper sweetening, the reaction proceeding smoothly and completely to the disulfide form.

Decreased Operating Costs

A marked reduction in operating costs has been made through the replacement of doctor and hypochlorite units with the new copper sweetening units.

Low Investment

New equipment for either the solution or solid copper treating processes cost less than that for the older methods of sweetening.

Labor Costs

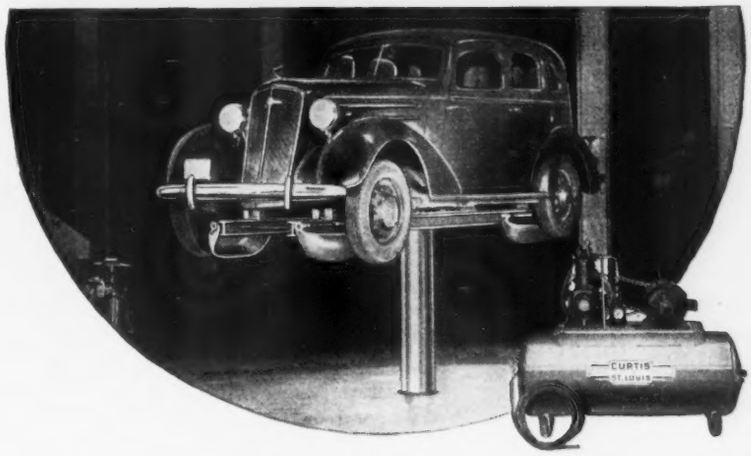
A marked reduction in labor costs is possible through the use of the copper sweetening methods.

Will Supervise Oil On Indian Lands

TULSA, Sept. 26.—The direction of drilling, production and marketing of gas and oil on the lands of the Five Civilized Tribes will be handled by the U. S. Geological Survey office in Tulsa after Nov. 1, according to an order recently issued by the Secretary of the Interior. John M. Alden is supervisor in charge of the Tulsa office.

The duties which have been turned over to Mr. Alden's office formerly were handled by A. M. Landman, superintendent of the Five Civilized Tribes, with offices in Muskogee, Okla. For some time, it was reported, Mr. Alden's department had been handling the work in connection with all the Indian Agencies except the Osages.

FASTER SERVICE brings EXTRA PROFIT with CURTIS LIFTS



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Brilliant in appearance and performance — Positive centro-ring lubrication—Timken bearings—"V"-belt drive—Centrifugal unloader—Precision workmanship.

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NAME.....

St-Box.....City-State.....

Company.....Position.....

TRANSACTIONS IN OIL STOCKS ON NEW YORK STOCK EXCHANGE

1935 High	1935 Low	1936 High	1936 Low	Listed Shares	Par Value	Company	Current Dividend	Last Div. Paid	Transactions Week Ended Oct. 3, 1936 Sales Shares	High	Low	Last	Week's Change
80	48½	125½	75	788,675	N.P.	Amerada Corp.	50cQ	July 31, 36	4,500	104	94	103½	+11
44	29¾	51⅛	36	2,290,412	$25	Associated Oil Co	25c	May 1, 36	70	41	40	40	— 1
28	20½	35⅛	26⅝	2,664,901	25	Atlantic Refining Co.	25cQ	Sept. 15, 36	11,400	28½	27	28½	+ 1⅜
14¾	5⅞	20	14⅛	2,131,090	5	Barnsdall Corp.	20c	Aug. 1, 36	.....	....	....	....	....
9⅛	6¾	28¾	8¼	1,444,970	N.P.	Colonial Beacon Oil Co.	....	.....	350	27	26¼	27	— ⅛
12¼	6½	15¼	11½	13,983,287	N.P.	Consolidated Oil Corp.	15c	Aug. 15, 36	42,200	13⅞	13⅜	13¾	+ ¼
112½	108½	106⅛	101	132,771	$100	do pfd	$1 25Q	Sept. 1, 36	.....	....	....	....	....
35	15⅛	38½	28⅛	4,682,662	5	Continental Oil Co.	25c	July 31, 36	28,300	34	32¼	34	+ 1⅞
22⅛	11¾	34¾	21¼	413,333	$10	General Asphalt Co.	....	.....	6,700	25⅝	23¾	25⅜	+ ¾
7	1½	12¼	6⅜	1,098,618	25	Houston Oil Co.	....	.....	24,200	9¾	8⅞	9½	+ ⅝
5¼	2¼	13⅜	4⅛	1,207,132	10	Indian Refining Co.	....	.....	1,700	11¾	10⅝	11½	— ⅛
1⅞	⅝	.....	....	1,309,060	N.P.	Louisiana Oil Ref'g. Corp.	....	.....	.....	....	....	....	....
15	4½	51½	13	40,000	$100	do pfd	....	.....	790	39⅜	35	38	— 2
3	1	6¼	2¼	330,000	N.P.	Maracaibo Oil Exploration Co.	....	.....	600	3⅝	3½	3½	+ ⅛
20½	9½	23¾	17¼	1,857,912	$10	Mid-Continent Pet. Corp.	40c	June 1, 36	24,100	26⅜	23⅝	25¾	+ 1⅛
17¾	10⅜	26¼	16¾	1,399,345	N.P.	Mission Corp.	....	.....	1,700	20	19	20	0
14¼	9¼	17½	12¼	6,563,377	N.P.	Ohio Oil Co.	25c	June 15, 36	17,900	13	12¼	12¾	+ ⅛
21	10¾	20⅝	12¼	4,699,885	$5	Pan Amer. Pet. & Transp. Co.	....	.....	300	13	12½	12½	— 1¼
1⅞	½	4¼	1⅝	199,370	N.P.	Panhandle Prod. & Ref'g. Co.	....	.....	900	2½	2⅛	2½	+ ⅜
20	6½	74½	18½	17,994	$100	do pfd	....	.....	570	60	53	57	+ 3
14	7⅝	18	12⅝	2,153,444	5	Petroleum Corp. of America	25c	Sept. 30, 36	8,100	14⅜	13½	14¼	+ ⅜
40	13¾	49⅛	38⅛	4,152,836	N.P.	Phillips Petroleum Co.	25cQC	Sept. 1, 36	43,400	43⅞	40¾	43⅞	+ 1⅜
1¼	¼	2¼	⅞	1,184,817	$25	Pierce Oil Corp.	....	.....	.....	....	....	....	....
8	2¾	17	8	150,000	100	do pfd	....	.....	1,000	11½	10½	11⅛	— ½
1¾	⅝	2½	1½	2,500,000	N.P.	Pierce Petroleum Corp.	....	.....	12,300	2⅛	2	2⅛	+ ⅛
13	6½	17	11⅛	1,050,000	$5	Plymouth Oil	25cQ	Sept. 30, 36	4,800	16⅝	16	16¼	— ⅛
17	5⅞	24⅛	16¼	3,038,370	N.P.	Pure Oil Co.	.....	.....	23,400	17⅞	16¾	17⅞	+ 1⅛
103	34¾	118	91½	167,640	100	do 6% pfd.	$1.50	Oct. 1, 36	200	95½	95	95	0
119⅞	49⅝	133½	103	130,000	100	do 8% pfd.	$2.00	Oct. 1, 36	30	109	109	109	+ 1½
48½	29½	57⅝	48⅛	425,342	a	Royal Dutch Co. (N. Y. shares).	$1.70	Aug. 1, 35	.....	....	....	....	....
36⅛	20¾	42½	30½	1,241,383	N.P.	Seaboard Oil of Del.	25c	Sept. 15, 36	3,900	32½	30½	32½	+ 1
39	20⅝	48	38½	56,148	£2	Shell Transport & Trading Co.	$1.237	July 24, 35	.....	....	....	....	....
16½	5½	21½	14⅝	13,070,625	N.P.	Shell Union Oil Corp.	.....	.....	38,000	24¾	22¼	24¾	+ 2¼
111	63½	124	110½	400,000	$100	do pfd. w.w	$1 37½	Oct. 1, 36	2,900	122½	120	122½	+ 1
18¾	4⅜	6¾	3½	461,000	10	Simms Petroleum Co.	**$1 00	July 31, 36	3,300	4¼	4⅛	4¼	+ ⅛
20½	6½	31½	19½	1,008,549	15	Skelly Oil Co.	.....	.....	6,500	29⅜	28	29¼	+ 1¼
116½	60	132	116	120,000	100	do pfd	$1.50	Aug. 1, 36	200	118⅝	118	118	+ ½
15¾	10⅝	17	12½	31,701,348	15	Socony Vacuum Oil Co.	25c	Sept. 15, 36	39,300	14⅛	13½	14⅛	+ ⅝
116	111	113½	109¼	764,925	100	S. O. Export Corp. pfd.	$2.50 S.A.	June 30, 36	.....	....	....	....	....
41⅛	27¾	47⅝	35	13,102,900	N.P.	S. O. California	30c	Sept. 15, 36	13,700	36⅜	35¼	36¼	+ ½
33⅜	23	40⅛	32¾	15,215,677	$25	S. O. Indiana	50c	Sept. 15, 36	13,600	38¼	37⅜	38¼	+ ⅝
32	20	30	25	146,542	10	S. O. Kansas	....	.....	500	27¾	26¾	27¾	+ 1¼
52⅜	35¾	70	51⅛	25,740,965	25	S. O New Jersey	75c	June 15, 36	32,500	62⅜	60½	62	+ ½
77	60½	91	72	1,590,406	N.P.	Sun Oil Co.	25cQ	Sept. 15, 36	1,200	77¼	76⅞	77	0
121	115½	124	118	100,000	$100	do pfd	$1.50Q	Sept. 1, 36	20	122½	122½	122½	— ½
3½	1⅝	6¾	3	966,979	$1	Superior Oil Corp. (Del.)	.....	.....	5,700	4⅛	3¾	4	+ ⅛
30¼	16½	40	28⅞	9,851,236	$25	The Texas Corp.	50c	Oct. 1, 36	24,100	39½	36¾	39½	+ 2⅜
9¼	3¼	15¼	7½	930,370	10	Texas Pacific Coal & Oil Co.	25c	Aug. 1, 36	63,100	13½	11⅝	12⅞	+ 1⅜
15⅞	7⅝	19⅛	14¾	5,998,919	N.P.	Tide Water Associated Oil Co.	15c	Sept. 1, 36	63,600	19⅜	17¼	19¼	+ ¾
104½	84	106½	100⅝	695,503	$100	do pfd. C. T. V.	$1.50	Oct. 1, 36	300	104¼	103½	104¼	+ 1¾
48	26¾	60	51	2 191,823	N.P.	Tide Water Oil Co.	45c	Aug. 31, 36	10	50	50	50	— 4⅜
24	14¾	28½	20¾	4 386,070	25	Union Oil of California	25cQ	Aug. 19, 36	5,800	22	21½	21⅞	+ ⅜
26½	20¼	31⅝	22⅝	1 200,000	N.P.	Union Tank Car Co.	30cQ	Sept. 1, 36	2,500	29	27⅜	29	+ 1⅝
1⅝	⅝	2⅞	⅝	759,538	N.P.	Warner Quinlan Co.	....	.....	14,400	1½	⅞	1¼	+ ½
3⅛	1	5¼	2¾	431,443	$5	H. F. Wilcox Oil & Gas Co.	....	.....	800	3⅜	3⅛	3⅛	0

*New high. †New low. Ex-div. **Dividends of liquidation. ‡Stock dividend. a Par 33 1/3 florins.
C Paid 25c extra Sept. 1, 36.

STANDARD OIL STOCKS ON NEW YORK CURB MARKET

1935 High	1935 Low	1936 High	1936 Low	Shares Issued	Par Value	Company	Current Dividend	Last Div. Paid	Transactions Week Ended Oct. 3, 1936 Sales Shares	High	Low	Last	Week's Change
16	6	18	12¼	36,000	$25	Borne Scrymser Co.	50c	Apr 15, 36	.....	....	....	....	....
42½	30½	50	39¾	200,000	50	Buckeye Pipe Line Co.	75cQ	Sept. 15, 36	400	45⅜	44	44¼	— ½
157	115	124¾	108⅛	120,000	25	Chesebrough Mfg. Co.	$1 50	Sept. 30, 36	.....	....	....	....	....
23¾	10	34¾	19⅞	6,071,356	$5	Creole Petroleum Co.	25c	July 15, 36	39,800	28	25⅛	27⅝	+ 2⅝
38	33¼	44	39	50,000	$50	Eureka Pipe Line Co.	$10	Aug. 1, 36	250	43¾	41	43	+ 1½
64	44	76½	57	8,985,662	N.P.	Humble Oil & Refg. Co.	50cQ	Oct. 1, 36	5,900	63⅜	61⅝	63⅜	+ ⅞
22½	15⅜	24½	20	26,965,078	N.P.	Imperial Oil Ltd	‡25cS.	June 1, 36	11,800	21¼	21	21⅛	— ⅛
22½	15⅞	24⅜	20⅛		N.P.	do registered	25cQ	June 1, 36	800	21¼	21⅛	21⅛	— ⅛
6⅛	3⅜	9½	5½	300,000	$10	Indiana Pipe Line Co.	20c**	May 15, 36	700	9½	9¼	9½	+ ¼
39¾	28	39⅜	32⅛	14,324,088	N.P.	International Pet. Co.	‡75cS.	June 1, 36	9,900	35⅞	34⅞	35⅛	+ ⅛
....	....	36½	33⅜	.....	.....	do registered	....	.....	100	34½	34½	34½	— ½
10¾	6¾	15¾	9¼	509,000	$12.50	National Transit Co.	40c	June 15, 36	600	11⅝	11⅜	11⅝	+ ⅛
4⅞	3	6¼	4¼	100,000	5	New York Transit Co.	15c S.A.	Apr. 15, 36	100	5⅛	5⅛	5⅛	— ⅛
8	5¼	9¼	4⅞	120,000	10	Northern Pipe Line Co.	15c	July 1, 36	400	9⅛	9	9⅛	+ ⅛
107¼	90¼	110¾	104½	562,122	100	Ohio Oil Co. pfd.	$1.50Q	Sept. 15, 36	300	109	108¼	109	+ ¼
11	5½	8	5½	400,000	25	Penn Mex. Fuel Co.	....	Dec. 22, 33	100	5¾	5¾	5¾	— ½
34½	21⅝	40⅞	32½	1,142,671	25	South Penn Oil Co.	60c	Sept. 30, 36	1,500	40¼	39¼	40	+ ⅛
5	3⅞	7⅞	3⅞	100,000	10	Southern Pipe Line Co.	10c	Sept. 1, 36	100	4¼	4¼	4¼	0
56	45¼	60	48	35,000	50	South West Pa. Pipe Lines	$1.00	Oct. 1, 36	.....	....	....	....	....
24	18	23⅜	17⅛	2,604,790	10	S. O. Kentucky	35c	Sept. 15, 36	2,300	18⅞	18⅝	18⅝	— ¼
12	7¾	14⅝	11	188,403	25	S. O. Nebraska	....	June 20, 34	200	12	12	12	— ¼
23⅝	11½	36¼	21¾	753,740	25	S. O. Ohio	25c	July 15, 36	1,600	31	29⅞	30⅞	+ ⅞
99½	89	107½	97	120,000	100	do 5% pfd.	$1.25Q	July 15, 36	25	104¼	104¼	104¼	— ½
6	2¼	10	5⅛	34,158	25	Swan Finch Oil Corp.	87½c	Mar. 16, 36	300	8¾	8½	8½	— ¼

*New high. †New low. ‡Imperial Oil Spec. 37½c June 1, 36. International Pet. Spec. 50c June 1, 36.
x Ex dividend. **15c regular; 5c extra.

August Sales Up 9.3 Per Cent

WASHINGTON, Oct. 1.—Sales of petroleum products in August by 12 large companies totaled $50,541,000 as compared with $46,261,000 a year ago, an increase of 9.3 per cent. Compared with July, 1936, sales of $51,681,000 there was a decrease of 2.2 per cent. These figures were gathered by the Bureau of Foreign and Domestic Commerce in co-operation with the National Association of Credit Men.

During August 11 companies collected 80.6 per cent of outstanding accounts receivable which were on the books at the beginning of the month. This compares with 80.2 per cent in July and 79 per cent in August last year.

NEW YORK CURB BONDS

Week Ending Oct. 3

	High	Low	Last	Change
Cities Serv. 5s '66	79½	75½	78	—1½
Cities Serv. 5s '50	77⅝	74¼	77⅜	+ ¼
Cities Serv. G. 5½s '42	102⅜	101¾	102⅜	+ ⅜
Empire O & R 5½s '42	86½	85⅛	86¼	+1¼

OIL AND ROYALTY STOCKS ON NEW YORK CURB

1935 High	1935 Low	1936 High	1936 Low	Par Value	Company	Transactions Week Ended Oct. 3, 1936 Sales Shares	High	Low	Last	Week's Change
1/4	1/16	1 7/16	1/4	N.P.	American Maracaibo	1,800	1/4	7/16	1/4	+ 1/16
3 1/16	5/16	7 5/16	3 1/4	N.P.	Arkansas Nat. Gas	5,600	5 1/16	4 3/4	5 1/16	+ 1/4
3 3/4	5/8	7 3/4	3 1/4	N.P.	do A	11,600	5 1/8	4 3/4	5	+ 1/16
7 1/2	2 1/4	9 7/8	7 1/8	$10	do pfd	3,900	9 1/2	9 3/8	9 1/2	0
16 3/4	14 1/2	27 1/4	16 1/2	N.P.	British Amer. Oil coup.	100	22 5/8	22 5/8	22 5/8	— 1/4
....	....	26 1/4	21 3/8	N.P.	do registered	100	32	32	32	+ 1 3/4
4 1/4	1 5/8	4 7/8	2	$ 1/4	Carib Syndicate	3,100	2 1/4	2 1/8	2 1/4	0
3 1/4	3/4	7 3/4	3	N.P.	Cities Service	27,200	4	3 3/4	3 7/8	+ 1/8
47 1/4	6 1/2	66	41 1/2	$100	do pfd	1,600	55	53	53 5/8	— 1 3/8
4 3/8	5/8	6 1/2	3 3/4	10	do pfd. B	200	5	4 3/4	5	+ 1/4
43	6	63	41	100	do pfd. BB	20	52	50	50	— 2
2 1/16	1/16	4	5/8	N.P.	Colon Oil Corp.	....	....	....	....	....
1 1/2	1/8	5 1/2	3/4	N.P.	Columbia Oil & Gas vtc.	22,800	4 3/8	3 1/4	4 1/8	+ 7/8
3	1	5	2	$1	Consolidated Royalty	200	2 1/2	2 1/8	2 1/8	0
1 1/2	1/4	4 1/8	1 1/2	N.P.	Cosden Oil	5,500	2 3/8	2 1/8	2 3/8	0
6 1/4	3/4	17	6 1/2	$100	do pfd	600	13 1/2	12 1/2	13 1/2	0
2 1/2	5/8	2 3/4	1 3/4	N.P.	Crown Central Pet.	6,700	2 1/8	1 7/8	2 1/8	+ 1/8
8 1/8	4	12 3/4	9	N.P.	Darby Petroleum	2,800	*12 3/4	10 7/8	12 1/4	+ 2
2	....	4 5/8	1 7/8	N.P.	Derby Oil & Refg.	1,700	4 1/8	3 5/8	4 1/8	+ 1/4
20	20	73 1/2	25 1/2	N.P.	do pfd	100	73 1/2	72	73	— 1/2
74 3/4	50 1/4	104 3/4	72	$25	Gulf Oil Corp.	8,400	101 1/2	98 1/2	99 1/2	— 1 1/2
4 1/4	1 3/4	6 1/4	2 5/8	N.P.	Indian Ter. Illg. Oil A	200	2 7/8	2 3/4	2 3/4	0
4 1/4	1 1/4	6 1/2	3	N.P.	do B	....	....	....	....	....
3	1 1/8	5 5/8	2 5/8	N.P.	Kirby Petroleum	1,000	4 3/8	4 1/8	4 1/8	— 1/8
3/4	....	2	1/2	$25	Leonard Oil Dev.	15,700	1 1/8	3/4	1 1/8	+ 1/8
8 1/4	3 1/2	15 1/2	7 5/8	N.P.	Lion Oil Refg.	1,800	14 3/4	14	14 1/4	+ 1/4
10 7/8	4 1/2	14 1/4	9 7/8	N.P.	Lone Star Gas	18,700	14 1/8	13 1/2	14 1/8	+ 3/8
19	4	22 1/4	13 3/4	N.P.	Margay Oil Co.	....	....	....	....	....
2 3/8	7/8	4 1/8	1 1/2	N.P.	Mexico-Ohio Oil	200	1 3/4	1 5/8	1 3/4	— 1/4
3 1/2	1 1/8	4 3/4	1 7/8	N.P.	Michigan Gas & Oil	700	3 1/8	3	3 1/8	— 1/8
3 1/8	7/8	6	3	N.P.	Mid. States Pet. A vtc.	1,300	4 1/4	4	4 1/8	— 1/8
1/4	1/4	2 5/8	1/4	N.P.	do B vtc.	1,700	1 1/8	1	1	0
1/2	1/4	1/4	1/4	$1	Mountain & Gulf	....	....	....	....	....
5 3/4	4 1/2	8 1/8	5	10	Mountain Producers	4,600	5 3/4	5 3/8	5 3/8	— 1/8
20	11 3/4	23	17 3/4	N.P.	National Fuel Gas	2,800	20 1/4	19 3/4	20	+ 1/4
3 1/4	2	4 1/2	2 7/8	$5	New Bradford Oil	1,200	3 5/8	3 1/8	3 5/8	+ 1/2
4	2	8 3/4	3 3/8	N.P.	North Central Texas	500	5 1/4	5 1/4	5 1/4	+ 1/4
1/8	1/8	1/8	1/16	N.P.	North European	300	1/16	1/16	1/16	0
12 3/4	9 1/8	15 1/4	13 1/2	N.P.	Oil Stocks Ltd. A	200	14 1/16	14	14	— 1/16
4 1/16	1 1/4	6 5/8	3 1/4	N.P.	Pantepec of Venezuela	38,600	5 7/8	5 1/8	5 7/8	+ 7/8
1/8	1/8	1	1/16	N.P.	Producers Royalty	2,500	1/16	1/16	1/16	0
3 3/4	1/2	15 1/2	3	N.P.	Red Bank Oil	1,400	11	10 1/2	10 1/2	— 1/8
1/2	1/2	1 1/2	1/4	N.P.	Reiter-Foster Oil	800	5/8	1/2	5/8	+ 1/8
2 1/8	1/2	2 3/4	1/4	$25	Richfield Oil pfd	400	3/4	3/4	3/4	— 1/8
5	1 1/2	19 1/4	4 1/2	$1	Root Petroleum	4,900	15 3/8	14 3/4	15	— 3/4
15 1/8	8	23	14 1/2	20	do conv. pr. pfd	400	19 1/2	19	19 1/2	+ 1/16
....	....	39	26 3/4	$10	Royalty Corp. pfd	....	....	....	....	....
2 1/2	5/8	4 3/4	1 7/8	N.P.	Ryan Consolidated	300	3 1/4	3 1/8	3 1/8	— 1/8
1	1/4	2 1/4	1/2	$10	Salt Creek Consolidated	....	....	....	....	....
7 1/2	5 1/2	10	5 3/4	10	Salt Creek Prod.	11,000	6 1/8	†5 3/4	6	— 1/4
6 7/8	4 3/4	11 1/4	6 1/4	N.P.	Southland Royalty	400	8 3/8	8 3/8	8 3/8	+ 1/4
2 1/8	7/8	5	2 3/8	$5	Sunray Oil	11,000	3 1/2	3 3/8	3 1/2	0
..	....	49	47 1/2	....	do pfd	200	48	48	48	0
4	2	6	4 1/4	$1	Swiss Oil Corp.	29,400	5 3/4	5 3/8	5 1/2	+ 1/8
6 7/8 .	5	9 3/4	4 1/2	N.P.	Texon Oil & Land	700	5 5/8	5 3/8	5 1/2	0
....	....	3 1/2	2 3/8	....	Venezuela Mex.	900	3 1/2	3 1/8	3 1/2	+ 1/4
2 1/4	1/8	3 1/2	1 1/4	$1	Venezuela Petroleum	4,000	1 1/2	1 1/4	1 1/4	0
6 1/8	3 1/2	11	5 3/8	$1	Woodley Petroleum	900	8 1/8	8 1/2	8 1/2	— 1/4

*New high. †New low.

OIL DIVIDENDS

Dividends Waiting Payment

Company	Amount	Record	Payable
Amerada Corp. q.	50c	Oct. 15	Oct. 31
Atlantic Refg. 4% pfd. q.	1.00	Oct. 5	Nov. 2
Barnsdall Oil Co. q.	20c	Oct. 10	Nov. 2
Borne Scrymser spec.**	75c	Sept. 25	Oct. 15
Consolidated Oil Corp. q.	15c	Oct. 15	Nov. 16
do extra	25c	Oct. 15	Nov. 16
Continental Oil Co.	25c	Oct. 5	Oct. 31
do extra	25c	Oct. 5	Oct. 31
Indiana Pipeline	20c	Oct. 23	Nov. 14
do extra	20c	Oct. 23	Nov. 14
Lion Oil Refg. resumed	50c	Sept. 30	Oct. 15
McColl Frontenac Oil pfd. q.	$1.50	Sept. 30	Oct. 15
Skelly Oil 6% pfd.	$6.00	Oct. 1	Nov. 2
Stand. of Ohio q.	25c	Sept. 30	Oct. 15
do pfd. q.	$1.25	Sept. 30	Oct. 15

**Paid 50c Apr. 15, 36.

NEW YORK BONDS

Week Ended Oct. 3

	High	Low	Last	Change
Atlantic Refg. deb. 5s	103 1/4	103 1/4	103 1/4	— 1/8
Houston Oil 5 1/2s	102 1/8	102	102 1/8	— 3/8
Pan Amer. Pet. of Calif. 6s	37	37	37	—2 1/2
do 6s ctfs.	38 1/4	35 1/2	36 1/2	— 1/2
Pure Oil 4 1/4s '50 w.w.	114 7/8	112 3/4	114 7/8	+ 7/8
Pure Oil 4 1/4s '50 x.w.	104 1/2	104 1/4	104 1/2	0
Richfield Oil of Calif. 6s	43 1/2	40 5/8	41	—1 3/4
do 6s ctfs.	43 1/2	40	40 1/2	—2 1/4
Shell Union Oil 3 1/2s	98	97 3/4	97 3/4	— 1/4
Skelly Oil 4s	101	100 1/4	100 3/8	+ 1/8
Socony-Vacuum	105 1/2	104 5/8	105	— 7/8
S. O. N. J. 3s '61	100 3/8	99 7/8	100 1/8	— 1/8
Union Oil of Calif. 6s A	121 3/8	121	121	— 1/2
do 4s	114 1/2	114	114	— 1/2
Warner-Quinlan 6s	38 1/4	31	36 3/4	+5 3/4

PITTSBURGH STOCK EXCHANGE

Transactions Week Ended Oct. 2, 1936

	Sales	High	Low	Last	Change Over Week
†Cities Serv.	45	4	3 5/8	3 5/8	— 1/8
Col. Gas & Elec.	547	20 1/2	18 7/8	19 7/8	+ 1/2
†Col. Oil & Gaso.	584	4 1/8	3 7/8	4	+ 1/4
Devonian Oil	209	18 3/8	18 1/8	18 1/8	+ 1/8
†Gulf Oil of Pa.	100	102 1/2	102 1/2	102 1/2	+ 1/2
Lone Star Gas	10,466	14	13 5/8	13 7/8	+ 5/8
† do 6 p.c. conv. pfd.	173	99 3/4	99 3/4	99 3/4	0
Mountain Fuel Supply	1,095	6 1/2	6 1/4	6 3/8	+ 1/8
Plymouth Oil	181	16 1/2	16	16	— 3/8
Shamrock Oil & Gas	5,597	5 1/8	4 7/8	4 7/8	— 1/8
do rights	16,540	.06	.04	.05	....
†Standard Oil of N. J.	195	62	60 1/4	61	— 3/8

†Unlisted.

CLEVELAND STOCK EXCHANGE

Transactions Week Ended Oct. 3, 1936

	Sales	High	Low	Last	Change Over Week
Canfield Oil	....	....	....	....	....
do pfd.	....	....	....	....	....
Nat'l Refining	399	8	7 3/4	8	0
do pfd.	44	109	108	108	—2

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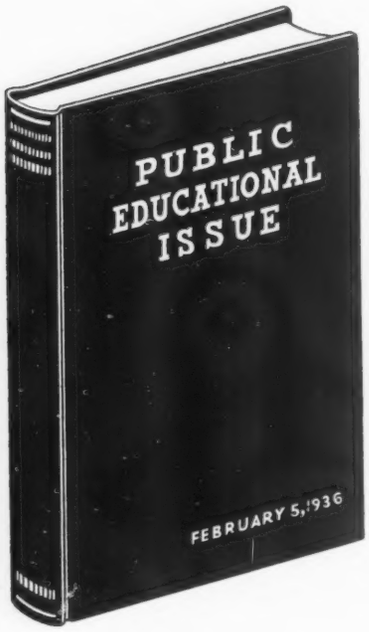

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National Council Makes Awards To Twenty-four Oil Companies

ATLANTIC CITY

PLAQUES and certificates were awarded oil company winners in the Petroleum Section Safety Contest at a luncheon during the National Safety Council congress recently in the Ambassador hotel, Atlantic City, for records established in the first half of 1936.

Twenty-four oil company units out of 219 entered in the contest sponsored by the National Safety Council went through this six-month period without a single lost time accident.

Awards were made for the lowest number of disabling injuries per one million hours worked. Plaques were awarded for first, certificates for second and third places, and duplicate awards were made where two or more contestants tied for first place.

Contest rules defined a disabling injury as any injury arising out of and in the course of employment resulting in death, permanent total disability, permanent partial disability, or temporary disability. Injuries were classified under the rules as those in which the victim was unable to return to work at the beginning of the next day following the mishap.

From January through June 222,714 employes of the various entries worked 239,434,543 man-hours. The average rate of disabling injuries for the 219 units was 14,091.

Following are the units receiving awards at the luncheon, the place indicating first, second or third place in the contest:

Manufacturing Department, Group A

1. Standard Oil Co. of Louisiana, Baton Rouge.
2. Union Oil Co. of Calif., Los Angeles.
3. Standard Oil Co. of Indiana, Chicago.

Manufacturing Department, Group B

1. Globe Oil & Refining Co., Blackwell, McPherson and Lemont.
1. Barber Asphalt Company, Maurer, N. J.
1. Ashland Refining Co., Catlettsburg, Ky.
1. General Petroleum Corp., Los Angeles.
1. Lago Petroleum Corp., Maracaibo, Venezuela.

Marketing - Wholesale Department, Group A

1. Continental Oil Co., Ponca City.
2. Standard Oil Co. of Indiana, Chicago.
3. Magnolia Petroleum Co., Dallas.

Marketing - Wholesale Department, Group B

1. Derby Oil Co., Wichita.
2. Pan American Southern Corp. & Subs., New York.
3. Texas Pacific Coal & Oil Co., Fort Worth.

Marketing-Retail Department, Group A

1. Humble Oil & Refining Co., Houston.
2. General Petroleum Corp., Los Angeles
3. Union Oil Co., Los Angeles.

Marketing-Retail Department, Group B

1. Shell Petroleum Corp., St. Louis.
1. Mid-Continent Petroleum Corp., Tulsa.
1. Standard Oil Co. of Louisiana, New Orleans.
1. Cities Service Oil Co., Chicago.
1. Texas Pacific Coal & Oil Co., Fort Worth.
1. Marathon Oil Co., Tulsa.

Drilling Department

1. Union Oil Co., Los Angeles.
2. Humble Oil & Refining Co., Houston.
3. General Petroleum Corp., Los Angeles.

Producing Department, Group A

1. Continental Oil Co., Ponca City
2. Ohio Oil Co., Findlay.
3. Stanolind Oil & Gas Co., Tulsa.

Producing Department, Group B

1. Hope Construction & Refining Co., Pittsburgh.
1. Panhandle Refining Co., Wichita Falls.
3. Texas Pacific Coal & Oil Co., Fort Worth.

Natural Gasoline Department

1. Carter Oil Co., Tulsa.
1. General Petroleum Corp., Los Angeles.
1. Shell Oil Co., San Francisco.
1. Hope Construction & Refining Co., Pittsburgh.
1. Gulf Companies, Houston.
1. Marathon Oil Co., Tulsa.

Pipe Line Department, Group A

1. Stanolind Pipe Line Co., Tulsa.
2. Illinois Pipe Line Co., Findlay.
3. Standard Pipe Line Co., Shreveport.

Pipe Line Department, Group B

1. Oklahoma Pipe Line Co., Tulsa.
1. General Petroleum Corp., Los Angeles.
1. Tide Water Oil Co., Bradford.
1. Ajax Pipe Line Co., Tulsa.

Tankers Department

1. Lago Shipping Co., Aruba, N. W. I.

2. Atlantic Refining Co., Philadelphia.

3. Venezuela Gulf Oil Co., Maracaibo, Venezuela.

Certificate Recommended

WASHINGTON—The Interstate Commerce Commission's Joint Motor Carrier Board number 9 has recommended the granting of a certificate authorizing operation as a common carrier of petroleum and its products to the Petroleum Transportation Corp. of Indiana.

If exceptions are not filed with the commission within 20 days, the recommendation will become final.

The corporation wants to operate from St. Louis, Carson City and Alma, Mich., to points in Michigan, Ohio and Indiana.

Continental Buys Two Planes

Continental Oil Co., Ponca City, Okla., will soon add two new all-metal transports to the list of transportation facilities it has available for personnel use, it was revealed this week at Lockheed Aircraft Corp., Burbank, Calif. The first plane has been completed and the second will be ready for testing within two weeks. The planes are six-passenger, twin-engine craft. Engines have a top speed of nearly 230 miles per hour and will cruise at 213.

Cease and Desist Order Issued

WASHINGTON—The Federal Trade Commission has ordered the Atlantic Coast Oil Co. of New York, Inc., to discontinue representing, through use of the emblem of the Pennsylvania Grade Crude Oil Association, that it is a member of that association "until and unless such is the case".

To Consolidate Swiss Oil and Ashland Refining

Swiss Oil Corp. and its principal subsidiary, Ashland Refining Co. will be consolidated into a new company to be known as the Ashland Oil & Refining Co. if stockholders approve the action taken by directors of the company, Paul G. Blazer, president has announced. The consolidation will be as of Oct. 31, 1936. Stockholders of Swiss Oil will receive stock in the new company, share for share.

The plan of consolidation provides also for the authorization of $1,000,000 of 5 per cent preferred stock, of which $500,000 is to be issued at this time. Proceeds from the sale of this stock will be used to retire the 8 per cent preferred stock of Ashland Refining Co. which has been called for redemption on Oct. 15, the acquisition of minority interests, and the expansion of operations.

As a preliminary step in the consolidation, Swiss is exercising its option to acquire at the approximate book value—estimated at $90,000—the remaining minority interests in the common stock of Ashland Refining Co.

British Consumption Higher

WASHINGTON — The January-July consumption of gasoline in Great Britain this year amounted to 777,227,000 gallons, an all-time high, the Department of Commerce reports.

Consumption during the corresponding period of 1935 amounted to 759,658,000 gallons. The increase is caused largely by the increasing number of motor vehicles in use in Great Britain, the department believes since 97 per cent of the gasoline consumed in the country is consumed by these vehicles.

Penn. Grade Assn. Appoints Detroit Representative

OIL CITY, Pa., Sept. 25. — Harry M. Rugg, an automotive engineer, has been appointed to the staff of the Pennsylvania Grade Crude Oil Assn. His headquarters will be in Detroit, where he will keep in touch with developments and prospective changes in the automotive industry. The appointment became effective Sept. 15.

Following the war Mr. Rugg went with Dodge Brothers in a research capacity, and during that time he spent some months at the Bureau of Standards in Washington where he assisted in setting up the original program for the Co-operative Fuel Research. He then entered the employ of the Texas Co., also in a research capacity. More recently he was assistant to the chief of the engineering division of the automotive department of the Vacuum Oil Co.

Harry M. Rugg

OIL INDUSTRY EXCHANGE

Positions Wanted

AS EXECUTIVE in Marketing—By individual with 20 years' experience in the oil industry, yet young enough to have his best years ahead of him and to believe that profit opportunities lie ahead for oil companies under Dealer Market Plan of operating stations. Through successful termination of work previously undertaken, this individual now desires position where he may have a hand in the new gasoline retailing policies now coming into being. At one time division manager for large oil company. Has operated refinery and also has appraised a large number of marketing properties.

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GOVERNMENT COSTS EQUAL *one-third of all your pay*

"What! *One third of all my pay for government?*"

OF COURSE! Perhaps you didn't realize it. It's an expensive business running the national, state and local governments—the way spendthrift politicians waste YOUR money!

The cost equals almost ⅓ of *all* you earn, but that is supposed to be a secret. That's why they *hide* your taxes! Take bread for example. 53 taxes are in every loaf. As for gasoline—40 to 60% of the price you pay goes for taxes.

The tax bill is so great EVERYBODY has to pay—the rich and the poor. (All the riches of all the rich people in the country wouldn't pay one year's taxes!) You just can't get away from it.

One third of your weekly pay will keep on going for government unless you do something about it.

WHAT TO DO

Our annual taxes can be less, because the cost of government can be reduced.

It has been estimated that the true economy of statesmen, not the spending of self-seeking politicians, would reduce the nation's tax bill by BILLIONS of dollars. And, without sacrificing good government! We would still have money for ALL needed relief—all important projects.

It's up to you to bring your taxes down—by putting a stop to endless EXTRAVAGANCE and waste.

So make this resolution and keep it: *"I resolve to oppose every officeholder who cannot prove to me that he has used all his influence to reduce the cost of government."*

Remember this resolution. You have all the power. You alone can oust political spendthrifts and put clear-headed lawmakers in their places.

ACT TODAY

Don't wait. You can stop tax wasting QUICKLY! Write these three letters. Mail them today:

One to your MAYOR (*or the County Clerk, if you live in the country*). *One to your* GOVERNOR. *One to the* PRESIDENT.

Write only one sentence in each letter and sign your name and address. Say: *"I want the cost of government reduced!"*

BUT DO IT TODAY! It's your job, Mr. and Mrs. Public. You alone can protect yourself. Don't fail. Let the wasteful spender know his game is up. Let's all help give America back to the people!

Write this letter today!

"I want the cost of Government REDUCED!"

MAIL COPIES OF IT TO:

1 Your Mayor (or your County Clerk)

2 Your Governor

3 The President of the United States

REGISTER—VOTE—Give your support to candidates, regardless of party, who WILL cut the waste out of government.

Space for this message is provided by National Petroleum News because of a firm conviction that a reduced cost of government is vital to the interests of all its readers